David Holloway Access DB# 83743

SEARCH REQUEST FORM

Scientific and Technical Information Center

9
74493

Requester's Full Name: Shahid Alam Examiner # : Date: 1/6/2003
Art Unit: 2172 Phone Number 305-2358 Serial Number: PCT/US02/38019
Mail Box Location: CPK2--4Y09 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: System and Method For Historical Database Training of Support Vector Machine

Inventors (please provide full names): Bruce Ferguson

Earliest Priority Filing Date: 28 Nov 2001

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number. This invention is nothing to do with claims. Limit search to Full Text, NPL, EPO, JPO, Compsci, etc. No abstract.**

Training a support vector machine, training set, detecting, retrieving, selecting training input data, time period, time stamps, historical database, process control using real-time data, operating physical process. Enclosed please find abstract for further clearing the subject matter.

A copy of the Document is enclosed and please return the Document.

****

STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher: David Holloway	NA Sequence (#)		STN	
Searcher Phone #: 308-7794	AA Sequence (#)		Dialog	$ 1475 0%
Searcher Location: CPK2 4B30	Structure (#)		Questel/Orbit	
Date Searcher Picked Up: 1-8-03	Bibliographic	U	Dr.Link	
Date Completed: 1-9-03	Litigation		Lexis/Nexis	
Searcher Prep & Review Time: 60	Fulltext	U	Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	✓
Online Time: 253	Other		Other (specify)	

01-07-03 A09:39 IN

Examiner Alam:
Attached please find the results of your search request re:
Support Vector Machine.

Please let me know if you would like to try a refocused search
with additional terminology or a different strategy.

David Holloway
308-7794

Google™ Advanced Search Preferences Language Tools Search Tips

svm "historical database"

Google Search

Web Images Groups Directory News-New!

Searched the web for **svm "historical database"**. Results **1** - **1** of about **2**. Search took **0.16** seconds.

ESANN 2000 - Content of the proceedings

... false signals from microcalcifications by means of an **SVM** classifier. ... by good quality estimates of those future intensity values, based on **historical database**. ...
www.dice.ucl.ac.be/esann/proceedings/ esann2000/content.htm - 90k - Cached - Similar pages

In order to show you the most relevant results, we have omitted some entries very similar to the 1 already displayed.
If you like, you can repeat the search with the omitted results included.

svm "historical database" Google Search Search within results

Dissatisfied with your search results? Help us improve.

```
Set     Items   Description
S1     356741   AI OR ARTIFICIAL()INTELLIGENCE OR SVM OR SUPPORT()VECTOR()-
            MACHIN? OR NEURAL()(NET? ? OR NETWORK?) OR NN OR NONLINEAR OR
            NON()LINEAR?
S2    5985727   PREDICT? OR FORECAST?  OR ESTIMAT? OR MODEL? OR SIMULAT?
S3    3867395   TRAIN?  OR LEARN? OR TEACH? OR TUTOR? OR INSTRUCT? OR EDUC-
            AT?
S4    1611495   DATABASE? OR DATABANK? OR DATA()(BASE? OR BANK? OR FILE?) -
            OR DB OR DBMS OR DBS OR RDB OR RDBS OR RDBM OR OODB
S5    8861484   HISTOR? OR PRIOR? OR PREVIOUS? OR EARLIER OR PAST OR OLD OR
             LOGFILE?
S6     119835   PROCESS()(DATA OR CONDITION OR CONTROL?) OR DATA()STREAM? -
            OR PRODUCT()PROPERTIES
S7   11610793   MODULE? OR SET? ? OR GROUP? ? OR SESSION? OR DAY? ? OR TIM-
            ESTAMP? OR (DAY OR DATE OR TIME)()STAMP?
S8          7   S1(S)S6(S)S4(2N)S5
S9          0   S1(S)S2(S)S3(S)S4(S)S5(S)S6(S)S7
S10       663   S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7
S11     15326   S4(2N)S5
S12        64   S10 AND S11
S13        47   S1(S)(S2 OR S3)(S)S4(S)S6
S14  10058136   (DAY OR TIME OR DATE)()STAMP? OR DAYSTAMP? OR TIMESTAMP? OR
             DATESTAMP? OR TIME OR TIMES OR DAY OR DAYS
S15   9449348   MODULE? ? OR SET? ? OR GROUP? ?
S16        19   S13 AND S14 AND S15
S17        48   S8 OR S13 OR S16
S18        37   RD (unique items)
S19        36   S18 NOT PY>2001
S20        36   S19 NOT PD>20011128
File 148:Gale Group Trade & Industry DB 1976-2003/Jan 08
         (c)2003 The Gale Group
File 647:CMP  Computer Fulltext 1988-2003/Dec W3
         (c) 2003 CMP Media, LLC
File   9:Business & Industry(R) Jul/1994-2003/Jan 07
         (c) 2003 Resp. DB Svcs.
File 674:Computer News Fulltext 1989-2003/Jan W1
         (c) 2003 IDG Communications
File 621:Gale Group New Prod.Annou.(R) 1985-2003/Jan 08
         (c) 2003 The Gale Group
File 553:Wilson Bus. Abs. FullText 1982-2003/Nov
         (c) 2003 The HW Wilson Co
File 239:Mathsci 1940-2003/Feb
         (c) 2003 American Mathematical Society
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
File 613:PR Newswire 1999-2003/Jan 09
         (c) 2003 PR Newswire Association Inc
File  16:Gale Group PROMT(R) 1990-2003/Jan 09
         (c) 2003 The Gale Group
File 275:Gale Group Computer DB(TM) 1983-2003/Jan 09
         (c) 2003 The Gale Group
```

20/3,K/1 (Item 1 from file: 148)

13690223 SUPPLIER NUMBER: 76998545 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Chipping into mining.(internet technology in mining industry)
Woof, Mike
World Mining Equipment, 25, 6, 38
July, 2001
ISSN: 0746-729X LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 4829 LINE COUNT: 00394

... use of chips in machinery to provide better performance for the user. At the same **time** , the growth in the types of software available, the uses these packages can be put...

...end of the second quarter of this year. The site should provide users with real- **time** service fleet data such as engine hour, usage reporting and even the geographic location of...

...on maintenance and servicing, as the technology can make this process more efficient and reduce **time** wasted on non-critical operations.

Meanwhile, Arsenault Associates reckons that upgrades to its vehicle fleet...

...shows a map of the work area and pinpoints the dozer's position in real- **time** , continuously updating cut and fill requirements as well as any hazard points. By using the...

...from the monitor, a dozer operator is able to work both safely and efficiently by **day** or night and without the need for flags, stakes or other conventional survey methods. Because the system works from the mine-planning package and updates its data in real- **time** , Modular claims there is no need for costly reworking.

The GPS equipment runs from both...

...point and increase accuracy as more satellites are in range of the dozer at any **time** . Key advantages are lower cost/tonne moved, improved productivity, real- **time** reporting, continuous grade control, improved equipment utilisation, compatibility with a mixed equipment fleet and full ...

...and shovels and the mine says this allows ore quality to be controlled in real- **time** . This package has also been supplied with Modular's equipment health monitoring and maintenance tracking...allows the customer to source information such as payload, event notification, alarm conditions in real- **time** to the equipment operators, dispatchers, field supervisors and a maintenance department. The firm points out...

...just 6-9 machines and others that can run up to 85 machines at a **time** . Like its rivals, the Wenco package relies heavily on GPS technology, linked with onboard system...

...end of this year and into early 2002. TireMax as its name suggests provides real- **time** monitoring of the work rate of the tyres on each individual truck and displays the...

...and advanced survey status information such as observation statistics and satellite availability.

At the same **time** , Magellan is seeing a major change with the announcement of its acquisition by French firmmetres drilled and run and idle **times** , so that mines can then assess utilisation. Production software for the LHDs is able to check vehicle ID, the operator, tonnes loaded and dumped, mucking location, orepass location and cycle **time** . All this data is brought together in a production scheduling and operator task assignment component, allowing output targets to be **set** and later compared against actual results. Daily task assignments for LHDs and secondary vehicles can be transmitted through a remote access **module** , to the machine operators.

Runge's automated scheduling package, AutoScheduler is a proven system for...

...now marketing its XPAC into additional mining sectors and has developed the specialised Underground Coal **Module** . This **module** combines XPAC with a CAD package, which is customised for drawing underground coal operations. The coal **module** incorporates a gridding system that is said to minimise the need to go back and...in ERDAS, a pioneer and the market leader in remote sensing software. At the same **time** , Leica Geosystems will also acquire the remaining 50% of the outstanding shares of LH Systems...

...for US$15 million. This has been a successful period for Leica Geosystems and the **group** reported a 19% increase in sales to SFr 642.2 million for the year ending...features is the tag tree interface, which means users can browse equipment hierarchy, minimising the **time** required to locate and view important plant data. Another application is the ability to input...

...maximise the profitability of plant operation. The firm says OCS can determine and implement optimised **set** points that reflect a selected control strategy, maintain output and target an economic objective, resulting...
...decrease in production costs. OCS features an integrated yet modular architecture and comes with all **modules** in a single process, without separate add-ons such as a **database** engine, run- **time** version and development version. All **modules** can exchange input and output data within a given project, as well as between different...

...to the number of tags and roles manipulated other than the capacity of the PC. **Modules** may include a real- **time** , expert system with an inference engine, one or several soft sensors and **predictive models** with adaptive process **models** and filter **estimator** , **neural network modules** and a statistics **module** . OCS is said to be easy to use and is designed to address the needs...

...advanced controls in the process industries. Because it is built from the ground-up for **process control** rather than as a generic expert package, it features a simplified configuration with reduced software...

20/3,K/2 (Item 2 from file: 148)

13323444 SUPPLIER NUMBER: 73326996 (USE FORMAT 7 OR 9 FOR FULL TEXT)
New game, new rules.
FADUM, OLE-KRISTIAN
PIMA's North American Papermaker, 83, 3, 30
March, 2001
ISSN: 1046-4352 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 3121 LINE COUNT: 00272

... available-to-promise" and "capacity-to-promise" capabilities.
Manufacturing facilities have changed dramatically from the **days** when they were standalone units, **set** up to maximize production as they saw fit. Today, the industry is quickly moving away...

...is made and at what quality.
An essential performance indicator for customer service is on- **time** deliveries. These require better inventory management, but more importantly, a more predictable and reliable manufacturing...

...Predictability and reliability require more focus on asset management to reduce lost product and lost **time** . In many manufacturing operations, these losses can be 10 to 25% of total production. Moreover...only make a better product, but also to document that quality for customers. Quality management **modules** from production management suppliers are common in many mills. Meanwhile, ERP suppliers are usually better...

...processing) tools with these systems makes them useful for decision support. Companies also need a **set** of tools for data mining to best utilize data--especially customer data. Manufacturing information warehouse ...

...now in common use throughout North America, Sweden and South America. These information systems are **time** based, much like the databases in DCS systems, but with longer-term storage of process information. Manufacturing data is **time** -tagged from seconds to **days** to years, with a focus on each process area and each piece of equipment.

MIWs...

...information systems are now augmented with relational databases to handle events, lab data, and reel, **set** and roll data. Examples are ABB Enterprise Historian, Aspen Technology InfoPlus 21, Honeywell Uniformance, Kvaerner...Many IT people at the mill level have already begun this transition.

At the same **time** **process** **control** staffs move towards manufacturing systems support, they work to optimize processes. This requires an increasing use of information systems for process and product management, and an increasing use of **modeling** , **simulation** , **neural** **networks** and expert systems. As this situation evolves, it may well make sense to have the IT department take responsibility for **process** **control** systems. This is especially true for networks, personal computers, Windows2000/NT or Unix workstations, and **databases** . For example, at one mill I visited, the **process** **control** **group** asked the IT **group** to install new NT based operator stations since no one in the **process** **control** department had NT skills!

"There is no indication that a company with 11 mills runs...

20/3,K/3 (Item 3 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

12108926 SUPPLIER NUMBER: 59281869 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Analyze and optimize.(Brief Article)
IIE Solutions, 32, 1, 54
Jan, 2000
DOCUMENT TYPE: Brief Article ISSN: 1085-1259 LANGUAGE: English
RECORD TYPE: Fulltext
WORD COUNT: 76 LINE COUNT: 00010

TEXT:
EnvaModel software builds a **neural** **network** for quick and easy off-line data analysis and optimization. The software constructs a mathematical **model** from **process** **data** , statistical experiments, or **historical** **databases** to help with a wide range of analyses, from measuring boiler combustion to analyzing employee...

20/3,K/4 (Item 4 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

10633714 SUPPLIER NUMBER: 20762772 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Ansoft Announces Contract with Department of the Air Force, Wright Laboratories
PR Newswire, p603PHW047
June 3, 1998
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 438 LINE COUNT: 00044

... Cendes, Ansoft's founder and chairman, said, "The objective is to develop a hierarchical RF **simulation** engine to drive the design of next generation high-performance computing and wireless devices." Like the human brain, **neural** **network** -based algorithms **process** **data** **based** on

association. In effect, the algorithms vary not only the output, but the algorithm itself...

20/3,K/5 (Item 5 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

10576892 SUPPLIER NUMBER: 21243698 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Applying neural networks.
Neelakantan, R.; Guiver, J.
Hydrocarbon Processing, v77, n9, p91(5)
Sept, 1998
ISSN: 0018-8190 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 3781 LINE COUNT: 00309

... The three most important components to building a good model are shown in Fig 2.
Process data are needed as the source for **training** the **model** . A good **neural network modeling** tool is needed to build **data - based models** . Process knowledge is used for driving and validating each step of the **model** building process.
A simple example illustrates the importance of process knowledge. Consider a distillation column...

...the data must be "information rich" over a wide operating range. Fig. 3 shows three **sets** of data collected from the plant.
The first dataset is large, with the data varying...may not match the current plant behavior.
Apart from these inherent shortcomings, the historical data **set** may lack sufficiently representative data for building a dynamic model. In any of these cases...

...frequencies and operating points of the process, may be necessary to collect a suitable data **set** .
When dealing with dynamic modeling, it is also important to evaluate the quality of the...

...correct the error between a linear model and process data using a neural network correction **module** (ILLUSTRATION FOR FIGURE 4 OMITTED).
It is also difficult to fully analyze a neural network...

...related inferential sensor. Online analyzers, especially those using gas chromatography, have a sample cure analysis **time** averaging 5 (approximately equal to) 15 minutes. For most advanced control applications, having analysis measurements...

...inferential sensor. Most laboratories give analysis results ranging from once an hour to once a **day** , though once every shift (eight hours) is most common. These analyses give information that is...
...taken, if necessary. The most common problem with modeling using laboratory data is that the **time stamp** of data collected from the lab rarely matches the actual **time** at sampling. This can cause serious problems. These issues do not arise when a laboratory...plant data to predict the future process response and take corrective action to satisfy a **set** of control objectives. The MPC structure can be approximately divided into two main parts: the challenging. One approach is to pass each input through a **set** of low order linear filters to produce dynamic "states" that are then fed to a...

...k - 1) + (1 - (e.sup.-1/(Tau))) u (k - d)
where (Tau) is the filter **time** constant (ILLUSTRATION FOR FIGURE 10 OMITTED). A recent paper(8) proves the applicability of this...

...internal components of an FPM that are not understood sufficiently to build an accurate rigorous **set** of equations. In such cases, the neural net can replace that individual component.
Another area...

...the American Institute of Chemical Engineers.
John Guiver is the manager of the Advanced Technology **Group** at Aspen Technology in the Advanced Control and Optimization Division at Pittsburgh. This **group** provides algorithmic and software solutions to problems in the areas of nonlinear systems identification, model...

20/3,K/6 (Item 6 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

10519223 SUPPLIER NUMBER: 21167850 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Metals industry envelopes itself in info age.
Pinkham, Myra
American Metal Market, v106, n182, p8A(1)
Sept 22, 1998
ISSN: 0002-9998 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 1905 LINE COUNT: 00153

TEXT:
...Copper Products Inc., Rome, N.Y., took a similar stance. "I think it took some **time** for the industry to realize the value of information management. As competition increased being the...

...just completed an analysis of what software and equipment we need and have begun to **set** strategies. We plan to use common systems to the largest extent possible, to replace some...

...space to communicate with its employees. For example, the environmental department has added an environmental **database** ," a company spokeswoman said. She added that there has been a major increase in the of software to track maintenance and inventories and the addition of a **process control** system to analyze ores in concentrators at its Chino Mines Co., Hurley, N.M. Management...

...Inc., Pittsburgh, said that it believes it is very important to have accurate, understandable, real- **time** information in keeping with its corporate adage, "If you can't measure it, you can...

...in the company and provides guidance." Savage said Revere views shop floor data collection, machine **process control** and the monitoring of various machine operations as the next major target for its effort...

...Bethlehem has several kinds of information management architectures, including shop floor ma-chine sequencing and **process control** ; supervisory computers used for mill **set** up control and **set** point control; specialized computers and servers; and business computer systems, as well as three kinds...

...he said. "The key information-end enhancement systems are those that allow us to do **predictions** to make decisions going forward That includes mining data allowing us to **predict** outcomes There is information out there but we always try to look for. ward rather...
...operate and control processes. That includes using advanced on-line technologies, including a type of **artificial intelligence** called **neural networks** ." He said. According to a posting on the Internet, a **neural network** is "a system composed of many simple processing elements operating in parallel whose function is...

20/3,K/7 (Item 7 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

10222161 SUPPLIER NUMBER: 20641306 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Optimized ADCs Pack Resolution, Speed, And Bandwidth On-Chip.
Bindra, Ashok

Electronic Design, v46, n11, p46(1)
May 13, 1998
ISSN: 0013-4872 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 3113 LINE COUNT: 00245

TEXT:

...In fact, they are searching for an optimized high-performance monolithic ADC that replaces multichip **modules** and hybrid designs at a fraction of the cost and power consumption. Toward that end...

...14-bit ADC with 2.5-Msamples/s conversion rate and 0.3-LSB differential **non - linearity** (DNL). "The highly integrated ADC14061 requires minimal analog front-end circuitry to capture and reproduce...

...is 2.7 to 3.6 V. Typical signal-to-noise ratio (SNR) is 62 **dB** at 4.4995 MHz. SPT claims that this level of performance at 3 V is...

...stations and wideband digital receivers. "With a 72-dBc spurious-free dynamic range (SFDR), 67- **dB** SNR, and a wideband SHA, the CLC5956 can digitize the first IF in these receivers...

...with significantly reduced quantization noise. The ADC boasts a dynamic range of 90 to 100 **dB** , with total harmonic distortion (THD) of -98 **dB** and SFDR of 101 **dB** at 100 kHz (see "CMOS data converters usher in high performance at low cost, "Feb...the decimation filter, or bypass the filter for undecimated data. The filter provides 0.004- **dB** pass-band ripple and 85 **dB** of stop-band attenuation. Designed for single +5 V operation, the ADC is made on...

...This high bandwidth, linear SHA minimizes harmonics and reduces jitter to enable a 67.5- **dB** SNR for 12-bit solution. "The SHA's 1.2-GHz bandwidth results in very...

...this work is the 12-bit, 53-MHZ sampling ADS807 with an SFDR of 82 **dB** at a 10-MHz input frequency, 67.5 **dB** SNR, and 0.5-LSB DNL. The ADS807 incorporates error-correction logic to ensure no 4 **dB** , and total harmonic distortion (THD) of-74 **dB** at 1 MHz. Many applications, such as vibration analysis, medical imaging, instrumentation, and digital signal...

...LTC1604 offers a 333-ksample/s data rate, with 90dB SINAD and -100dB THD. Conversion **time** is only 2.5 us for a complete conversion to 16-bit resolution. The chip...

...a 500 kHz sample-rate version of the 16-bit part. The faster 16-bit **model** is expected to be released later in the year In the low-frequency domain, transducers...

...other similar parameters. Many of these parameters must be measured simultaneously and controlled instantaneously in **process control** applications. For that purpose, designers are seeking complete front-ends with wide dynamic range at...

...for 10 to 12 bits of accuracy. At this rate, it is four to eight **times** faster than existing devices from key players, claims Maxim (see "Integrated low-voltage ADCs achieve...

...CMOS, AKM has released a 24-bit stereo ADC with a dynamic range of 116b **dB** and a SINAD of 105 **dB** . The new 24-bit AK5392 also cuts power consumption to 500 mW "Previously, this level...

...stereo ADC solution from a 28-pin SOIC. To achieve a dynamic range of 120 **dB** and THD plus noise of greater than 105 **dB** , the CS5396/97 uses a patented 7th order, ti-level A-E modulator followed by...

20/3,K/8 (Item 8 from file: 148)

10076995 SUPPLIER NUMBER: 20380260 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Tool taps neural net and fuzzy methods -- Zaptron's smart technology headed for process-control, factory-automation apps.(Zaptron Systems' DataX technology) (Company Business and Marketing)
Johnson, Colin R.
Electronic Engineering Times, n996, p35(1)
March 2, 1998
ISSN: 0192-1541 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 484 LINE COUNT: 00043

TEXT:
Sunnyvale, Calif. -- Zaptron Systems Inc. has crafted a smart technology-combining **neural networks** , fuzzy logic and genetic algorithms-that the company will use in **process control** , factory automation and business-data analysis products. Its first product, DataX, due out later this quarter, is a shrink-wrapped **neural network** capable of **learning** a fuzzy **model** , with the help of genetic algorithms operating on **historical databases** .

20/3,K/9 (Item 9 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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09071722 SUPPLIER NUMBER: 18811375 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Optimize the supply chain. (process control and information systems)
Bodington, C.E.; Shobrys, D.E.
Hydrocarbon Processing, v75, n9, p55(5)
Sep, 1996
ISSN: 0018-8190 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 3478 LINE COUNT: 00304

... are active in ensuring that the correct product will be actually produced and delivered on **time** . The functions can include sales and marketing, engineering, order-entry, strategic planning, plant scheduling, manufacturing...

...chain. Two examples are briefly described. One of these companies dramatically reduced customer order response **time** , while the other made substantial production savings.
Supply chain optimization. Optimizing a supply chain involves...

...be in the right containers, via the right vehicles, in the amount ordered and on **time** ; pricing must be as agreed, etc. Optimum supply-chain performance accomplishes all these ends at...
...increasingly reengineering their order-entry process. The objective is to commit to a delivery at **time** of order placement. Process manufacturing companies are rapidly moving toward this immediacy of delivery commitment ...

...function. The broad production function is composed of many activities including planning, scheduling and real- **time** process control. Planning (strategic or tactical) averages operations over a given period, and determines feedstock...

...proper process sequences, production run sizes and inventory levels. Scheduling doesn't average operations over **time** , but follows operations continuously over a relatively short period. Process control provides the real- **time** process management.
Integrating these activities requires considerable information flow (ILLUSTRATION FOR FIGURE 2 OMITTED). The...two areas generally used different computers, and the educational background and vernacular of the two **groups** were usually different. In the mid 1980s several articles appeared describing the "gap" between these...

...informational gap was limiting their profitability. The petrochemical industry was particularly astute. Some petrochemical companies **set** out to

20/3,K/10 (Item 10 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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08487980 SUPPLIER NUMBER: 18034167 (USE FORMAT 7 OR 9 FOR FULL TEXT)
ANGOSS Software International -- SHL VISION* Solutions to distribute ANGOSS KnowledgeSEEKER Software.
Business Wire, p2281226
Feb 28, 1996
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 333 LINE COUNT: 00043

ANGOSS KnowledgeSEEKER is an **artificial intelligence** data analyses and **prediction** tool that offers a unique solution for business analysis and decision support applications. These applications range from **database** marketing, to **forecasting** , to work **process control** . American Demographics Magazine recently recognized KnowledgeSEEKER as a leading edge analyses tool and named ANGOSS...

20/3,K/11 (Item 11 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

08121229 SUPPLIER NUMBER: 17379805 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Applications on parade. (neural networks)
Schwartz, Tom
Electronic Design, v43, n16, p68(1)
August 7, 1995
ISSN: 0013-4872 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 604 LINE COUNT: 00050

ABSTRACT: The pattern classification and **predictive** abilities of **neural networks** have resulted in many applications such as medical examinations, financial assessments, optical character recognition and **database** searching. The technology, whose first implementation was in an adaptive filter in the 1960s, is currently being used by Kodak for **process control** and production monitoring. Its viability for reconfiguring the flight surfaces of a shot-down fighter...

20/3,K/12 (Item 12 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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07558828 SUPPLIER NUMBER: 16209709 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Computing Applications Forum rumoured to expand its role in promoting UK neural computing. (Neural Computing Applications Forum)
Computergram International, CGI10060014
Oct 6, 1994
ISSN: 0268-716X LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 533 LINE COUNT: 00042

... also in discussions with the Neural Computing Applications Forum based in Egham, Surrey as this **group** may take over much of the work that the Department has been carrying out, such...

...those trying out business applications can get together to discuss what they are doing with **neural networks** and share and solve problems they are facing in the projects they are undertaking. The...

...in January. In the first stages of the Department's programme, it held national one **day** workshops to introduce companies to the technology and show practical demonstrations of what the technology can offer the business user. It has **set** up a dedicated hot-line providing details of researchers, suppliers and potential applications for companies that want to participate in the programme, and now has a **database** of 9,000

individuals registered with the programme, which is approximately 6,000 companies. Mid...

...they now had a pretty good understanding of the technology, with 16% actively investigating using **neural networks** in their businesses. The six clubs **set** up by the project are developing applications in the specific areas of data mining, condition monitoring, data processing, **process control** , automatic recognition and financial **forecasting** . In June of next year the Department is holding a conference at the Commonwealth Institute...

...goes ahead it may be the point at which academic research and popular use of **neural networks** merge to become more mainstream applications without the mystique currently surrounding them.

20/3,K/13 (Item 13 from file: 148)

06813314 SUPPLIER NUMBER: 14465623 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Advanced process control strategies '93.
Hydrocarbon Processing, v72, n9, p77(53)
Sept, 1993
ISSN: 0018-8190 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 37193 LINE COUNT: 03337

... process control techniques. The variety of process designs in these facilities is quite wide. The **modules** implemented depend on the process design as well as specific market and operating conditions for the facility. These **modules** include the SETPOINT Multivariable Control Architecture (SMCA) and advanced regulatory algorithms as well as rigorous ...

...raw NGL methane to ethane ratio and the lean oil molecular weight at the targets **set** by operations staff. Feed variations are handled smoothly. Simultaneously, the lean oil distribution to the...

...simulation of the multivariable controller is available on a Microsoft WINDOWS-based package.

The control **modules** in the package have been implemented on a number of software and hardware platforms. These...

...rich oil still, has yielded increases in NGL production of 200 to 400 barrels per **day** .

Licensor: SETPOINT Inc., Houston, Texas.

Amine treating

Application: In most processing facilities gas or liquid...

...amine temperature and residual [H.sub.2]S and [CO.sub.2]. Process and measurement **time** delays make feedback control sluggish; thus, a predictor equation forecasts the [H.sub.2]S...

...sub.2] ratio in the sweet product. These predicted values are corrected on line by **time** delayed GC analysis and sent to the MVC feedback control **module** that selects the governing specification to further manipulate lean amine flowrate that maintains the respective...incorporates an imbedded linear program (LP) to ensure accurate prediction of the optimum at all **times** . Using the steady-state values from the prediction routine, the LP finds the optimal control...

...can be applied to numerous ammonia plant configurations.

Control strategy :There are eight integrated control **modules** in the system:

* H/N ratio control **module** . A multivariable predictive control strategy controls H/N ratio to the synthesis converter by adjusting air rate, and secondarily, feed gas rate.

* Potential hydrogen control **module** . The hydrogen content and

molecular weight of the feed gas are used to correct its...

...is coupled with this controller to maintain the desired hydrogen production.

* Steam/carbon ratio control **module** . On-line organic carbon analysis of the feed allows direct control of the steam/carbon ratio for more precise stoichiometry.

* Methane leakage control **module** . Reformer firing rate controls methane leakage from the secondary reformer to reduce the purge losses and increase overall efficiency.

* Converter control **module** . Model predictive control adjusts interbed cooling to achieve tight control of the temperature of each bed in the synthesis converter. This is essential for maximizing ammonia conversion.

* Refrigeration purge control **module** . This strategy monitors cooling system conditions and determines the most appropriate ammonia receiver pressure. This helps minimize refrigeration compressor loading.

* Inerts purge control **module** . On-line analysis of the makeup gas and synthesis loop gas are used to maintain tight control of inerts at the converter inlet.

* Reformer fuel Btu control **module** . The primary reformer fuel Btu controller uses on-line analysis of the mixed fuel to...due to feed gas composition changes. Plant operators and managers are better informed by real- **time** compositions of many key process streams, graphic displays, and historical energy consumption and production rate...

...dynamics. The controls respond well to process upsets and line out disturbances within an acceptable **time** period.

Solutions are based on plant data and values generated from computer simulations of the...

...the recovery column bottoms ensures the proper aromatics concentration in the lean solvent. Constraint control **modules** are implemented to maximize charge rates and to prevent process limit violations on the extractor...

...Controls on the paraxylene extraction unit include product purity controls to compensate for long dead **times** and control aromatic isomers and toluene impurities to target, reducing product giveaway. An on-line...a preferred recipe.

Features of the system include:

* Ability to change any user input any **time** in the blend
* Bumpless transfer on and off-line any **time** in the blend
* Easy user control of how fast tank errors are corrected
* Use of...

...component assigned to any number of flow stations

* Ability to change component assignments at any **time**
* Control of up to 30 blend properties
* Input from analyzers on any or all properties...

...Continuous calculation of properties of the gasoline blended so far; properties in the tank; estimated **time** to completion; cost of the blend

* Automatic rate pacing or rate maximization.

Economics: Typical project...

...up and shutdown sequencing, to on-line multivariable model-based control and optimization. The principal **modules** in the Blending Control and Optimization system are:

1. ANAMEL - ON-Line Multivariable Model-based Blending Control and Optimization - This **module** performs blend optimization and specification control using optimal state feedback multivariable methods plus an LP...

...such as BLEND 2000 and P-PIMS also available.

2. REGMEL - RATIO Blend Control - This **module** performs all regulatory assignments associated with blend control. It automates basic blender tasks such as...

...product contamination
* Increased safety
* Improved information flow
* Improved utilization of facilities and staff.
Economics: Payout **time** is typically less than one year.
Commercial installations: ANAMEL and REGMEL **modules** are in operation at 6 refineries throughout the world. This includes a total of 16 ...

...by minimizing the giveaway and reblending.
ICOTRON normally uses two Honeywell TDC 3000 OM&S **modules** for blending:
* Blend ratio control (BRC)
* Blend property control (BPC).
Control strategy:
Blend ratio control. The lower level of control is the BRC **module** , which consists of the component and additive flow controls. The BRC **module** adjusts the individual flow controller setpoints so that the total blend flowrate and volume are...capability and volume correction.
Blend property control. The upper level of control is the BPC **module** , which performs the blend optimization within constraints and at minimum cost. The optimization of a...

...on-line with BPC to take advantage of current conditions to minimize giveaway.
The BPC **module** takes a recipe, which has been optimized off-line and monitors the BRC application of that recipe. The BPC **module** has a nonlinear optimizer that continuously reformulates the recipe using current process data.
Special features...

...include statistical analyses. On-line analyzer data are important to the good operation of this **module** .
Economics: Advanced blend controls reduce giveaway and virtually eliminate the need for reblending.
Typical closed...
...of blender configurations. PRO-BLEND can use combinations of database technologies (relational and/or real- **time**) for ease of configuration and integration with DCS blend ratio controls, laboratory systems and other...

...of benefits comes from:
* Optimal recipe from tuned LP blend models
* Optimal component usage over **time**
* Minimal quality giveaway
* Reduced instrumentation investment and operating costs
* Increased flexibility from in-line certification...to reduce cyclohexanone recycle, better use raw material, improve product recovery and stabilize unit operations. **Modules** within this package include the SETPOINT Multivariable Control Architecture (SMCA) in concert with other advanced...provide a key refinery blend pool stream.
Control strategy: The package consists of six integrated **modules** : octane control, reactor temperature control, pressure control, [H.sub.2]/HC mole ratio control, fractionation control, and furnace firing and efficiency control.
The first four **modules** are of special importance because they interactively affect catalyst life, product yield and reformate octane...

...to maximize the octane-barrels with maximum catalyst life and minimum energy usage using five **modules** :
* Recycle gas control
* Coil outlet temperature control
* Severity control
* Pressure minimization
* Combustion optimization and control.
Control strategy:
Recycle gas control. This **module** eliminates unnecessary heating and cooling of recycle gas by keeping the hydrogen to oil ratio...

...and electricity costs. For example, the local utility has several alternative prices depending on the **time** of **day** . The requirement for on-line optimization is to develop a model of sufficient accuracy to...

...report generation; alarm logging and display; and display formatting. The system operates 24 hours per **day** in the real- **time** , on-line mode. The central processor is able to schedule tasks according to their priority (to permit software maintenance to be run without system shutdown).
Limits are **set** by the UCS operator, including limits on boiler house production. The computer calculates surplus steam...

...to evaluate stability and net steam trends. When a calculation, prediction or signal exceeds the **set** limit, the event is logged and an alarm initiated. If an event changes state (vent open, breaker trip, etc.) the event is logged, **time** tagged, and an alarm is issued. The system retrieves and formats displays for console preparation...powerful and flexible software package for analyzing and optimizing total utility systems. Uses range from **day** -to- **day** operating strategies to analyzing the impact of major plant modifications on the utility system.
PLUTO...

...subsequent analysis.
Economics- Benefits obtained from using PLUTO II vary with individual plants. Improvements in **day** -to- **day** operation involving optimization of existing equipment generally fall in the range of $25 to $100...The on-line EMS is modular in design, which allows the implementation of only those **modules** required/justified for a specific production facility. These application **modules** may also be implemented in a closed loop or open loop mode or a combination...
...the sophistication of today's distributed control systems (DCS), several of the on-line EMS **modules** can be executed at the DCS level while some of the model-based controls and...

...a computer system interfaced to the DCS. Economics may dictate installation of all the EMS **modules** in a computer system that is interfaced to a traditional regulatory control system.
The on...

20/3,K/14 (Item 14 from file: 148)

06659686 SUPPLIER NUMBER: 14813299
Out of the ivory tower. (research group Microelectronics and Computer Technologies Corp. to develop information systems products/services for commercial sector) (includes related article on MCC projects)
Caldwell, Bruce
InformationWeek, n455, p57(2)
Dec 13, 1993
ISSN: 8750-6874 LANGUAGE: ENGLISH RECORD TYPE: ABSTRACT

...ABSTRACT: products. MCC spinoff Evolutionary Technologies Inc, for example, is marketing an Extract Tool Suite for **data base** management. A joint collaboration between MCC and Eastman Chemical Co is producing an application that allows users simultaneous access to multiple incompatible **databases** . Another MCC spinoff, Pavillion Technologies, is marketing Process Insights, a **modeling** and **process - control** application that combines fuzzy logic, chaos theory and **neural network** technology. **Neural networks** , foreign exchange applications and credit-card fraud detection programs are also under development.

20/3,K/15 (Item 15 from file: 148)

05927919 SUPPLIER NUMBER: 14260336 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Computer equipment and software. (Industry Overview)
Miles, Tim; Streeter, Jonathan; Woods, R. Clay; Spathopoulos, Vivian; Kader, Victoria A.; de la Guardia, Maria; Smolenski, Mary
U.S. Industrial Outlook, p27-1(28)
Annual, 1992
DOCUMENT TYPE: Industry Overview ISSN: 0083-1344 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 25579 LINE COUNT: 02138

... firms, and manufacturers of highly parallel, multi-processor computer systems for commercial use. As a **group** , mid-range computer companies spent a higher percentage of their revenues on R&D than mainframe, desktop, and peripheral equipment suppliers.

The National Critical Technologies Panel, a White House-appointed **group** of scientists and business people, submitted a report in early 1991 that concluded that U...

...technologies received adequate long-term support by the Federal Government and the private sector.

Another **group** , the Computer Systems Policy Project (CSPP), released its second report on technology policy, which urged...fueled almost entirely by growth in the latter category. Overall unit shipments of this combined **group** rose by about 8 percent to just under 650 in 1991.

INTERNATIONAL COMPETITIVENESS

Although U...units produced. As traditional vector system shipments are expected to increase only marginally during that **time** frame, the driving force behind industry growth will be in massively parallel systems.

At the same **time** , traditional moderately parallel systems will become available with perhaps as many as 32 processors. These...

...MIPS also were expected on the market by the second half of 1991. The cycle **time** of the fastest central processing units has dropped well below 10 nanoseconds (billionths of a...

...sold a majority interest in its operations to Fujitsu in late 1990 and France's **Groupe** Bull recently gave up a 5 percent stake to Nippon Electric Co. (NEC).

Shipments of...and image processing. Several manufacturers may also introduce massively parallel mainframes based on reduced instruction **set** chip (RISC) microprocessor technology. The performance of high-end multiprocessor systems will probably surpass two...
...lines, a 10 percent increase over 1990. Like mainframes, midrange computers are extremely sensitive to **times** of economic slow down and started 1991 very slowly, gaining momentum around mid-year. Since... communicate with all other computers; vendors envision a system that would have additional features to **set** it above the others in the marketplace.

Midrange systems are primarily sold through two different...

...color monitors and sophisticated software capable of handling multitasking (more than one task at a **time**) and networking (communications with other computers).

Graphics supercomputers are high-end, 64-bit workstations. that...

...enable scientists and engineers to view 3-D simulations of complex mathematical models in real **time** .

The U.S. workstation industry experienced slower growth in unit shipments during the first quarter...build compatible computer systems. Motorola formed the 88 Open Consortium in the same year to **set** standards for systems using its 88000 RISC microprocessor family.

Two new **groups** emerged in 1991 reportedly to counter the strength of Intel's microprocessor in personal computers...

...derived from the Open System Foundation's OSF/1 operating system). Major participants in this **group** include Compaq, Digital Equipment Corp., and Silicon Graphics.

Under the terms of another agreement, IBM...machine may emerge as the dominant workstation architecture in 1996 and provide users with five

at the University of California, Berkeley, in 1965...

...network systems. Japan is cooperating with the government-controlled National Computer Board in Singapore to **set** up an institute there for training domestic computer scientists in artificial intelligence technology.

As the...specialists have forecast sales of $2.4 billion by 1994.

Outlook for 1992

By merging **artificial intelligence** technologies such as **neural networks** , expert systems, and fuzzy logic, major breakthroughs will be seen in optimizing massive parallelism, real- **time** performance, and high-speed applications. **Neural network** applications will continue to expand in auto diagnostics, stock **prediction** , **process control** , seismic analysis, and scheduling. Increasingly, expert systems users will demand products that can be integrated into their existing systems. Vendors will find that support and compatibility with users' **databases** will become critical in marketing their systems. Many computer aided software engineering (CASE) tools, incorporating **artificial intelligence** techniques, are expected to emerge. More U.S. companies will create "Help Desk" expert systems...

...troubleshooting situations. These systems will assist support and service employees in increasing customer satisfaction, shortening **training** cycles, and standardizing troubleshooting procedures.

Long-Term Prospects

By the mid-1990's, neural network...

...9500. Dataquest, 1290 Ridder Park Dr., San Jose, CA 95131. Telephone: (408) 437-8000. Gartner **Group** , Inc., 56 Top Gallant Rd., Stamford, CT 06904. Telephone: (203) 967-6752. International Data Corp...

20/3,K/16 (Item 16 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

05926207 SUPPLIER NUMBER: 13331956 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Evaluation of manufacturing expert systems: framework and model.
Leung, Lawrence C.; Miller, William A.; Okogbaa, Geoffrey
Engineering Economist, v37, n4, p293(21)
Summer, 1992
ISSN: 0013-791X LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 5633 LINE COUNT: 00490

... K. and A. Hoummady, "Knowledge-Based Method for Determination of Assembly Sequences Using a CAD **Data Base** ," 1989 Spring IIE Conference proceedings. 9. Harker, P.T., L. G. Vargas, "The Theory of Ratio Scale **Estimation** : Saaty's Analytic Hierarchy Process," Management Science, 33, 1987, 1383-1403. 10. Hayes-Roth, D...

...Industrial Engineering, 15, 1988, 331-337. 13. Kamal, M.A., "Building Expert Systems in Statistical **Process Control** ," 1988 ASME International Computers in Engineering Conference and Exhibition Proceedings, 71-77. 14. Kumara, S...

...Transactions, 21, 1989, 50-64 21. Ntuen, C.A. and N. Sliwa, "Knowledge Requirements for **modeling** Telerobotic Environment as a Man-machine System, 1988 Spring IIE Conference Proceedings, 138-145. 22...

...1980. 24. Saaty, T. L. and M. Takizawa, "Dependence and Independence From Linear Hierarchies to **Non - linear** Networks," European Journal of Operational Research, 26, 1986, 229-237. 25. Stefik et.al., Chapter...

20/3,K/17 (Item 17 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

05198352 SUPPLIER NUMBER: 10926961 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Productivity and quality in the HPI. (HP In Control) (column)
Kane, Les
Hydrocarbon Processing, v70, n6, p21(1)
June, 1991
DOCUMENT TYPE: column ISSN: 0018-8190 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT
WORD COUNT: 694 LINE COUNT: 00060

... operation. These include (not in any particular order) data reconciliation, expert systems, on-line plant **models** , advanced control and optimization, **neural networks** , safety systems, environmental monitoring and documentation, maintenance management, plantwide **databases** , statistical **process control** , linear programming and scheduling, offsites control and monitoring, machinery monitoring and laboratory information systems.
There...

20/3,K/18 (Item 18 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

05161876 SUPPLIER NUMBER: 10787640 (USE FORMAT 7 OR 9 FOR FULL TEXT)
OSI file services/400 Version 2 Release 1 modification 1. (Open System Interconnection)
Computergram International, n1689, pCGI06040012
June 4, 1991
ISSN: 0268-716X LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 1104 LINE COUNT: 00091

... licence options are from $1,010 to $16,790.
Neural Network Utility/400 Version 2
Neural Network Utility/400 Licensed Program Offering is the enhanced version of a previously released Program Request Price Quotation, and the program is a suite of commands designed to **simulate** parallel network processing. A number of **neural network** algorithms are supported, including back propagation, adaptive resonance networks, self-organising feature maps, self-organizing routing networks, and constraint satisfaction networks. These **models** address a range of environments such as classification, data analysis, diagnostics, **forecasting** , fuzzy **database** queries, quality control, inventory control, **modelling** , **process control** , and underwriting. The PS/2 environment under OS/2 supports the IBM Wizard card for...
...AS/400 system, PS/2 under MS-DOS or PS/2 under OS/2, and **neural networks** are transferable between systems. In the AS/400 environment, Version 2 Release 1 of Operating...

20/3,K/19 (Item 19 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

04627780 SUPPLIER NUMBER: 09175831 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Large real time **expert systems.**
Mason, Alan J.
Control and Instrumentation, v22, n5, p133(2)
May, 1990
ISSN: 0010-8022 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 1697 LINE COUNT: 00137

Large real time **expert systems.**

TEXT:
LARGE REAL **TIME** EXPERT SYSTEMS
... much larger system, capable of handling several thousand process points, is applied to a major **group** of inter-related plant items or indeed to the plant as a whole.

Knowledge base...

...projects. Indeed, the essential maintenance should be performed by the process engineers themselves.
A real **time** expert system gets its data from one of three sources. First, it is taught the...
...does not replace it. There are in fact several discrete knowledge bases in a real **time** expert system, which interact closely to form the whole. These include: * the process plant knowledge...of the knowledge maturation process that the system will offer less than optimum advice from **time** to **time** , due to deficiencies in its knowledge base. These can, of course, be subsequently corrected by...

...to provide the facilities to present the reasoning to the operator on demand. PA Consulting **Group** 's Escort system, for example, has a `why' facility on-screen which displays, in English...

...of reasoning which led to the conclusions which it presented to the operator.
A real **time** expert system must derive its data in real **time** . In the context of process control this means that it must link to the process ...

...s), and if appropriate to other systems. The expert system must contain a current values **database** . In addition, it may also hold data from other sources; for instance real **time** weather **predictions** , laboratory results or similar, as well as internally derived data such as rates of change...
...which can provide the standard and specialised communications protocols without substantial modifications to the complex **AI** software.
Expert systems are now well established in many areas of computer applications. Some years ago there was rather less investment in real **time** expert systems than in simpler, off-line systems; where it did occur it was usually...

20/3,K/20 (Item 20 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

04534466 SUPPLIER NUMBER: 08563123 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Supercomputer will control all. (real-time computer for factory- and process-control applications)
American Machinist, v134, n1, p31(2)
Jan, 1990
ISSN: 1041-7958 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 437 LINE COUNT: 00035

TEXT:
...need a really high-powered supercomputer for solving massive real-time problems in factory automation, **process control** , or **simulation** ? Flavors Technology Inc (Amherst, NH) has developed the Parallel Inference Machine (PIM), a real-time supercomputer, and its accompanying English-language-like programming environment, Paracell, both specifically designed for factoryand **process - control** applications. Unlike general purpose real-time computers, which are event- or "interrupt"-driven, says Flavors...

...500x the memory of the most powerful PLC. Unlike a PLC, the PIM supports mathematics, **data base** , expert systems, and emerging technologies, like **neural networks** .

20/3,K/21 (Item 1 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext

01154459 CMP ACCESSION NUMBER: EET19980302S0089
Tool taps neural net and fuzzy methods - Zaptron's smart technology headed

for process-control, factory-automation apps
R. Colin Johnson
ELECTRONIC ENGINEERING TIMES, 1998, n 996, PG35
PUBLICATION DATE: 980302
JOURNAL CODE: EET LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: Technology
WORD COUNT: 440

TEXT:
Sunnyvale, Calif. - Zaptron Systems Inc. has crafted a smart technology-combining **neural networks** , fuzzy logic and genetic algorithms-that the company will use in **process control** , factory automation and business-data analysis products. Its first product, DataX, due out later this quarter, is a shrink-wrapped **neural network** capable of **learning** a fuzzy **model** , with the help of genetic algorithms operating on **historical databases** .

20/3,K/22 (Item 2 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext

00556976 CMP ACCESSION NUMBER: EET19900611S0544
AS/400 PLATFORM FOR BIG BLUE'S FIRST MOVE:IBM backs neural nets with software simulator
R. COLIN JOHNSON
ELECTRONIC ENGINEERING TIMES, 1990, n 594, 14
PUBLICATION DATE: 900611
JOURNAL CODE: EET LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: NEWS
WORD COUNT: 422

... new models being introduced lately," Bigus explained.
Many applications
According to IBM, the AS/400 **Neural Network** Utility enables the development of a wide range of applications, including appraisal systems, classifications, consumer credit scoring, data analysis, decision support, diagnostics, **forecasting** , "fuzzy" **database** query, inspection and quality control, inventory control, knowledge acquisition from data, **modeling** , **process control** and underwriting. "We have several customers that have already deployed applications developed using the AS/400 **Neural Network** Utility and many more evaluating new ones," Bigus said. The AS/400 is used primarily...

20/3,K/23 (Item 1 from file: 9)
DIALOG(R)File 9:Business & Industry(R)

02079188 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Tool taps neural net and fuzzy methods -- Zaptron's smart technology headed for process-control, factory-automation apps
(Zaptron Systems created a smart technology for use in process control, factory automation and business-data analysis products)
Electronic Engineering Times, p 35
March 02, 1998
DOCUMENT TYPE: Journal ISSN: 0192-1541 (United States)
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 435

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:
By: R. Colin Johnson

Sunnyvale, Calif. - Zaptron Systems Inc. has crafted a smart

technology-combining **neural networks** , fuzzy logic and genetic algorithms-that the company will use in **process control** , factory automation and business-data analysis products. Its first product, DataX, due out later this quarter, is a shrink-wrapped **neural network** capable of **learning** a fuzzy **model** , with the help of genetic algorithms operating on **historical databases** .

"We have DataX in beta-testing now, and it's finding many practical applications in...

20/3,K/24 (Item 2 from file: 9)
DIALOG(R)File 9:Business & Industry(R)

02060112 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Data Mapping: Mining for Knowledge
(Study predicted 150% growth in data-mining industry from $3.3 bil in 1996 to $8.4 bil in 2000)
Direct, p 89+
February 1998
DOCUMENT TYPE: Journal ISSN: 1046-4174 (United States)
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 742

ABSTRACT:
A recent Meta Group Inc tudy **predicted** 150% growth in the data-mining industry from $3.3 bil in 1996 to $8...

...the same tools and analytical techniques used for traditional direct marketing analysis, such as regression, **neural networks** or CHAID. One of the great promises of data mining is that many of the commercial tools available automate the actual **modeling process** . **Data** mining provides the opportunity to identify hidden information buried deep inside **databases** .

20/3,K/25 (Item 1 from file: 621)
DIALOG(R)File 621:Gale Group New Prod.Annou.(R)

01365267 Supplier Number: 46279721 (USE FORMAT 7 FOR FULLTEXT)
Enhanced Analysis and Data Management Functions Make Moldflow Release 9.1 "Most Powerful"
News Release, pN/A
April 3, 1996
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 892

(USE FORMAT 7 FOR FULLTEXT)
TEXT:
...Among the highlights of the new release are: * Enhanced Project Manager software that organizes complex **data files** * Warpage **simulation** that take into account "comer effects" * Stress analysis that can **predict** long-term creep * Animation and dynamic **model** rotation for easier analysis and data interpretation * Materials **database** expanded to include almost 4000 materials * Translator enhancements to handle complex geometry and various CAD...

...manufacturing The Dynamic Series is an integrated suite of CAE analysis tools from Moldflow. Analyses **simulate** plastic flow, mold cooling, molding warpage, part stiffness and shrinkage, finished cavity size, and fiber...

...are launched and project files managed. The system uses a "tree" format to logically link **model** files, and the data resulting from individual analyses, for easy retrieval. All analysis tools, project manipulation, and

results **data files** are accessible via icons. Notes -- to document why a particular action was taken, for instance -- can be attached to any node on a project tree. Warpage **simulation** MF/WARP, the warpage **simulation** portion of the Dynamic Series, now takes into account the increase in bending that occurs...

...only plastics analysis system that has this capability, which results in a significant improvement in **prediction** of large deflection trends. Stress analysis The major enhancement to MF/STRESS, the only structural-analysis package designed specifically for plastics, is the ability to **predict** creep. Using isochronous stress-strain data, MF/STRESS **models** the long-term deformation of a plastic part under load or elevated temperatures. In addition, advanced users gain greater flexibility in accounting for **non - linear** orthotropic behavior. Animation and dynamic **model** rotation The new animation capability in MF/VIEW enhances the user friendliness of Moldflow analysis...
...filling or warping. With the implementation of Open Graphics Language (Open GL), the system graphically **simulates** various effects in real-time or in slow-motion. For instance, the user can actually...

...the mold, how airtraps or weldlines are formed, or how a part deflects under load. **Models** can be rotated and scaled up or down to achieve a particular viewing angle. With...

...mapping, the user can visualize what the surface of the part actually look like. Materials **database** With the release of the Dynamic Series 9.1, the Moldflow materials **database** has been expanded to include almost 4000 materials. Data on 600 new materials has been...

...customers with Internet access will soon be able to obtain additional updates to the materials **database** , as they become available, via the Moldflow web site. Translator enhancements Release 9.1 enhancements...

...be of particular interest, since most CAD systems output STL files as standard. Once a **model** is meshed, a midplan can be generated using Moldflow's recently introduced MF/MIDPLANE, which imports and prepares solid **models** for analysis. Context sensitive help system An improved hypertext help system, now part of Dynamic...
...information in the help system about correct interpretation of results and typical design solutions. Intelligent **Process Control** Powerful new algorithms increase the speed and accuracy of MF/OPTIM, the Dynamic Series tool...

...CAE analysis with shopfloor control of injection-molding machines as part of the Moldflow Intelligent **Process Control** system. Moldflow Pt . Ltd. With a global market share of approximately 80%, Moldflow is the...

20/3,K/26 (Item 1 from file: 553)

03032301 H.W. WILSON RECORD NUMBER: BWBA95032301
Austrian refiner benefits from advanced control.
Richard, Lynn A
Spencer, Mark; Schuster, Rudolf
Oil & Gas Journal (Oil Gas J) v. 93 (Mar. 20 '95) p. 70+
LANGUAGE: English

ABSTRACT: OMV-AG Energy has implemented advanced **process controls** on 27 units at its refinery in Schwechat, Austria, with a variety of controls being...

...The advanced controls were implemented in a Digital Equipment VAX, using Setpoint's real-time **database** system. The project made considerable use of a library of advanced control algorithms implemented as user **process controllers** . Three were employed extensively for the butadiene and MTBE units: a constraint controller, a **nonlinear** proportional integral

controller, and a simple **model predictive** controller. After more than a year of operation, the butadiene/MTBE project has provided a...

20/3,K/27 (Item 1 from file: 239)
DIALOG(R)File 239:Mathsci

02524795 MR 95j#62003
COMPSTAT 1994.
Proceedings of the Eleventh Symposium on Computational Statistics held in Vienna, 1994. Edited by R. Dutter and W. Grossmann.
Contributors: Dutter, R.; Grossmann, W.
Publ: Physica-Verlag, Heidelberg,
1994, xiv+555 pp. ISBN: 3-7908-0793-1
Language: English
COMPSTAT,; Symposium: Computational Statistics,; Vienna, 1994 11th 1994
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: LONG (63 lines)
Reviewer: Editors

...collection include the following, which will not be reviewed individually: Peter J. Huber, Huge data **sets** (3--13); Arnoldo Frigessi, Assessing convergence of Markov chain Monte Carlo methods (14--27); Hakan ...

...correlation induction (52--57); Vladimir Y. Katkovnik [V. Ya. Katkovnik], Local polynomial approximation of rapidly **time** -varying parameters of **nonlinear** dynamics (58--63); Michael G. Schimek, Gerhard P. Neubauer and Haro Stettner, Backfitting and related...

...attributes) in a GIS (105--119); Gilles Celeux and Gerard Govaert, Fuzzy clustering and mixture **models** (154--159); Roberta Siciliano and Francesco Mola, **Modelling** for recursive partitioning and variable selection (172--177); Jorge Alberto Achcar, Approximate Bayesian inferences for...

...the Weibull case: some aspects of reparametrization (181--186); Luan Jaupi and Gilbert Saporta, Multivariate **process control** through the means of influence functions (195--200); J. Schmidtke and B. Schneider, TRIQ---a PC-program for design and analysis of triangular sequential trials (201--206); Mostafa Bacha, **Estimation** of parameters of the inf. of Weibull distributed failure **time** distributions (209--214); Christophe Croux and Peter J. Rousseeuw, High breakdown regression by minimization of a scale **estimator** (245--250); Christine H. Muller, On the calculation of MSE minimizing robust **estimators** (257--262); Philippe C. Besse, **Models** for multivariate data analysis (271--285); Michael A. Hauser, Wolfgang Hormann, Robert M. Kunst and Jorg Lenneis, A note on generation, **estimation** and **prediction** of stationary processes (323--328); Viacheslav Mazur and Alexei Iourovski, **Data based** selection of ``window width'' for spectrum density **estimator** based on **time** -averaged periodograms (329--334); Anthony C. Atkinson and Alexander N. Donev [A. N. Donev], An algorithm for blocking response surface designs in the presence of **time** trends (417--422); Janice Lorraine Low, S. M. Lewis [Susan Margaret Lewis], B. D. McKay...

...PLS regression via additive splines (464--469); Antoine de Falguerolles and Brian Francis, Fitting power **models** to two-way contingency tables (470--475); Valery Fedorov [Valeri Vadimovitch Fedorov], Peter Hackl and...

...testing procedure for missing data (503--508); Peter W. F. Smith and John W. McDonald, **Simulate** and reject Monte Carlo exact conditional tests for quasi-independence (509--514); Andrew G. Bruce...

20/3,K/28 (Item 2 from file: 239)
DIALOG(R)File 239:Mathsci

01700527 MR 83a#68001q
Encyclopedia of computer science and technology. Vol. 16.
Index. Edited by Jack Belzer, Albert G. Holzman and Allen Kent.
Contributors: Belzer, Jack; Holzman, Albert G.; Kent, Allen
Publ: Marcel Dekker, Inc., New York,
1981, iii+192 pp. ISBN: 0-8247-2266-3
Language: English
Encyclopedia: Computer science and technology,; Computer science Vol. 16
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: LONG (78 lines)
Reviewer: Editors

...amplifiers, including articles on abstracting and indexing services, access and accessing, acoustic memories, adaptive and **learning** systems, Aerospace Corporation, airline reservation systems and the American Library Association. Volume 2 contains 27...

...by implicit enumeration. It includes articles on analog-digital conversion, analysis of variance, ARPA network, **artificial intelligence** , associative memories and processors, automata theory and Charles Babbage. Volume 3 contains 31 articles from ballistics calculations to Box - Jenkins approach to **time** series. It includes articles on band-limited functions, bargaining theory, Bayesian statistics, beam equations, Benders...

...Bolt Beranek and Newman Inc., and Borel field. Volume 4 contains 14 articles from brain **models** to chemical structures computer handling. It includes articles on branch and bound technique, cathode ray...

...input/output microform. It includes articles on COBOL, command and control systems, compilers, computer-aided **instruction** and computer networks. Volume 6 contains 16 articles from computer selection criteria to curriculum committee...

...18 articles from curve fitting to early development of programming languages. It includes articles on **database** structures, digital computer architecture, drug information retrieval systems and dynamic programming. Volume 8 contains 24 articles from earth and planetary sciences to general systems. It includes articles on econometric **models** , factor analysis, fuzzy **sets** , game theory and GASP. Volume 9 contains 25 articles from generative epistemology of problem solving... ...geometric transforms. It includes articles on geology, goal programming, health systems, hybrid computers and inventory **models** . Volume 10 contains 14 articles from linear and matrix algebra to microorganisms (computer-assisted identification...

...17 articles from pattern recognition to reliability of computer systems. It includes articles on pharmacology, **process control** and radiology in medicine. Volume 13 contains 22 articles from reliability theory to USSR (computing...

...tensor calculus and traffic theory and control. Volume 14 contains 8 articles from very large **database** systems to zero- memory and Markov information source. Volume 15 is a supplementary volume of ...

20/3,K/29 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

07532338 Supplier Number: 63134161 (USE FORMAT 7 FOR FULLTEXT)
Benjamin B. Ames on Computer Productivity Tools.(Brief Article)(Statistical Data Included)
Ames, Benjamin B.
Design News, v55, n13, p104

July 3, 2000
Language: English Record Type: Fulltext
Article Type: Brief Article; Statistical Data Included
Document Type: Magazine/Journal; Refereed; Academic Trade
Word Count: 305

The new Transient Acoustic Holography **module** in the CADA-X Noise & Vibration Testing software suite uses measurements taken in one plane...

...user can look at pressure changes at particular frequencies or orders as a function of **time** or rpm, on such sound signals as engine run-ups.
LMS International, 5455 Corporate Dr...

...dematic-us.com.
<READERSERVICE>For Information, circle 598</READERSERVICE>
Data analysis
ENVAMODEL™ builds a **neural network** to provide off-line data analysis and optimization. The software constructs a mathematical **model** from **process data** , statistical experiments, or **historical databases** , for applications from measuring boiler combustion efficiency to analyzing employees' manufacturing efficiency.
Envatec, Box 2130...

20/3,K/30 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

04100011 Supplier Number: 45976833 (USE FORMAT 7 FOR FULLTEXT)
FERMENTATION APPLICATION USING NEURAL NETWORKS
Pharmaceutical Manufacturing Review, p23
Dec 1, 1995
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 2256

... of the model is displayed to the operator at the host computer terminal.
On-demand **model** execution with automatic data collection: With this technique, the execution of the neural network **model** is also manually initiated by the operator. However, in this scenario, the host computer has access to the process control system's **database** through a computer/highway interface package. When execution of the **model** is requested by the operator, the input data required for the **model** is read from the **process control** system **database** , and the **model** is executed using the automatically collected input data. The output of the **model** is then displayed to the operator at the host computer terminal or at the **process control** system's operator interface.
Control-based model execution with automatic data collection: With this technique, the execution of the **neural network model** is initiated by a call from the **process control** system to the host computer. When the **model** execution request is received by the host computer, the input data required for execution of the **model** is read from the **process control** system **database** . The **model** is then executed using the automatically collected input data, and the output of the **model** is returned to the **process control** system.
Real-time model execution with automatic data collection: With this technique, the neural network...

20/3,K/31 (Item 3 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

01202094 Supplier Number: 41381575 (USE FORMAT 7 FOR FULLTEXT)
IBM backs neural nets with software simulator: AS/400 PLATFORM FOR FIRST MOVE
Electronic Engineering Times, p14

June 11, 1990
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 425

... new models being introduced lately," Bigus explained.
Many applications
According to IBM, the AS/400 **Neural Network** Utility enables the development of a wide range of applications, including appraisal systems, classifications, consumer credit scoring, data analysis, decision support, diagnostics, **forecasting** , "fuzzy" **database** query, inspection and quality control, inventory control, knowledge acquisition from data, **modeling** , **process control** and underwriting.
"We have several customers that have already deployed applications developed using the AS...

20/3,K/32 (Item 1 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01713528 SUPPLIER NUMBER: 16236081 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Text retrieval takes steps forward; Oracle brews its own while IBM turns to Excalibur. (Oracle ConText and Excalibur Technologies' Excalibur Text Retrieval Library)
Lawton, George
Software Magazine, v14, n11, p22(1)
Nov, 1994
ISSN: 0897-8085 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 646 LINE COUNT: 00051

TEXT:
Text retrieval software, one of the earliest applications of **artificial intelligence** , will again attract attention as more and more **data streams** off the "data highway" and into the corporation. **Earlier** this year, **database** giant Oracle Corp. made a foray into the text retrieval market with new software. Also...

20/3,K/33 (Item 2 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01603596 SUPPLIER NUMBER: 13961579 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The benefits of serial proximity networks. (implementation of theoretical serial connectivity network to approach performance of massive parallelism)
Root, Jeff
AI Expert, v8, n7, p42(6)
July, 1993
ISSN: 0888-3785 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 3132 LINE COUNT: 00254

... the network should store the association of process-control adjustments made for similar input variable **sets** based on some acceptable criteria. One required feature of the design was the utilization of...

...of change for both X and Y varies from one to three units per monitored **time** interval. Consider using proximity factors smaller than the largest rate of change for X and Y. Figure 3 shows subspaces that might be created for seven arbitrary input value **sets** if the proximity factors were assigned to be two. Figure 3 also shows a **set** of larger subspaces, created using proximity factors of three.
Now imagine that the network is...
...and the current coordinates for X and Y are (5, 8). If during the next **time** interval X increased by three and Y by two, the new coordinates would be (8...

The network uses the proximity factors to store subspace associations. Basically, a **set** of inputs and outputs is fed to the network. The network is activated using the inputs. If no existing subspace associations are found for the input **set** , a new node in the subspace pool **group** 's solitary pool is allocated in memory. Connections are then allocated to connect each input/output representation from the network pool **groups** to the new subspace node. Each input/output connection at the new subspace node is...

...value that caused the entry into a subspace on the control threshold would have a **set** of outputs that adjusts the inputs in the proper direction to correct the output. In...the activation process.

APPLICATION BUILDING

The successful application of a serial proximity network to a **process - control** problem involves a **data file** that was generated from a **simulator** for a **nonlinear** , interactive problem. The equation utilized within the **simulator** was of the form shown in Figure 4, where the exponent n in the first...

...as well as heuristically generated control adjustments (feedback), were provided by the simulator for each **time** interval of a specified frequency. (The feedback adjustments were provided to simulate manual operator control...

...using tab delimiters between each process-control variable and a carriage return delimiter between each **time** interval. The file was read twice by the network building software.

The first **time** the data file was read, each variable's range, minimum value, and proximity factor were determined. From this information the input/output network structures (pool **groups** , pools, nodes) were built.

The second **time** the data file was read, subspace data was stored in the network's distributed memory...

...the network outputs provided feedback to the simulator's process controllers. The maximum activation response **time** recorded was less than one millisecond and the problems were successfully contained.

OPPORTUNITIES ABOUND

Serial...

...offers much opportunity.

SUGGESTED READING

Rumelhart, David E., James L. McClelland, and the PDP Research **Group** . Explorations in the Microstructure of Cognition, Vol. 1, Foundations. Cambridge, Mass.: MIT Press, 1986.

Rumelhart, David E., James L. McClelland, and the PDP Research **Group** . Explorations in the Microstructure of Cognition. Vol. 2, Psycological and Biological Models. Cambridge, Mass.: MIT Press, 1986.

Rumelhart, David E., James L. McClelland, and the PDP Research **Group** . Explorations in Parallel and Distributed Processing. Cambridge, Mass.: MIT Press, 1986.

Jeff Root is an...

20/3,K/34 (Item 3 from file: 275)

01440727 SUPPLIER NUMBER: 10919132 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Neural-net resource guide. (directory)

Enrado, Patty

AI Expert, v6, n7, p60(9)
July, 1991
DOCUMENT TYPE: directory ISSN: 0888-3785 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 4073 LINE COUNT: 00347

TEXT:

The last **time** AI Expert ran a neural-net resource guide was in December 1989, when we featured...

...neural-net industry is growing and that large and small companies alike are investing their **time** and energies toward producing faster, more efficient neural-net tools.
... of data-storage memory and built-in Ethernet LAN support.
CNAPS CodeNet is an integrated **set** of software-development tools designed to facilitate the development, modification, and execution of neural-network...
...Chem Custom Formulation System can determine an optimized formulation of desired product properties. Given a **set** of ingredients and processing attributes, CAD/Chem can determine a product's properties. CAD/Chem...

...BrainMaker has pulldown menus, dialog boxes, color graphics, and mouse. BrainMaker Professional accepts larger data **sets** than BrainMaker, provides more flexible modeling, graphics, and includes a runtime license. BrainMaker version 2...

...9051, (800) 284-8112, fax (916) 477-8656.
COGNITION TECHNOLOGY CORP.
NeuroSmarts is a hybrid **neural** - **network** /expert-system that integrates pattern recognition and explicit rules for applications such as financial and market **forecasting** , medical diagnosis, **process control** , image recognition, and failure **prediction** and analysis. NeuroSmarts permits use in real- **time** environments. It has a manager-level rather than an engineer-level, user interface that insulates operators from network details. NeuroSmarts for the Macintosh and DOS imports data from speadsheet/ **database** files such as Excel, Lotus 1-2-3, Filemaker Pro, or Full Impact in common...

...format or straight delimited text. It has a single proprietary algorithm (four-layer, single-pass **training** gives Bayesian optimal classication). NeuroSmarts for OS/2 supports 68882 math coprocessors; the DOS version...

...can come to and from Windows version 3.0 Dynamic Data Exchange through the Pipe **module** . They also support Balboa 860, ANZA Plus, and 19 neural-network paradigms.
NeuroSoft is a...

...619) 546-8877, fax (619) 542-6524.
HYPERLOGIC CORP.
OWL Neural Network Library provides a **set** of neural-network simulations in the form of a programming library for C-language development ...C functions to embed and link these technologies. By typing a line and linking the **modules** , you can match the tool to the problem. Net-Link+ imports data from standard databases...

...New Haven, Conn. 06510, (203) 564-7335, fax (203) 624-0655.
RACECOM
Magic! is a **group** of 12 neural-network paradigms running under Windows 3.0 and designed for DDE with...
...format translation and can perform linear or nonlinear functions on the data at the same **time** it is translated. Supporting all common neural-network models, the DDNC includes Data Translation DT...

...Box 36, Hatch, N.M. 87937, (800) 733-4207, fax (505) 267-1015.
WARD SYSTEMS **GROUP**
NeuroShell is a ready-to-use software shell for applying neural networks to decision-making...

...Intel match coprocessor.
NeuroBoard is a neural-network accelerator board that runs NeuroShell approximately 100 **times** faster than a 20MHz 80386 processor with math coprocessor.
NeuroShell version 4.0 for DOS, $195. NeuroBoard version 4.0 for DOS, $1,695-$3,295.

Ward Systems **Group** , Inc., 245 W. Patrick St., Frederick, Md. 21701, (301) 662-7950, fax (301) 662-5666.

20/3,K/35 (Item 4 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01355037 SUPPLIER NUMBER: 08329570 (USE FORMAT 7 OR 9 FOR FULL TEXT)
IPC'90 adds sessions on industrial process control. (1990 International Programmable Controllers Conference) (directory)
I&CS (Instrumentation & Control Systems), v63, n3, p69(7)
March, 1990
DOCUMENT TYPE: directory ISSN: 0746-2395 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 768 LINE COUNT: 00064

... and supplier is vital to achieve goals of reliability and maintainability. Performance objectives must be **set** prior to the purchase of any equipment.
The conference's plenary session gets underway on...

...competition in the 90s. The topic is "What's in Store for the '90s?... No **Time** left for Spectators." Leaders representing discrete control, expert systems, and process control industries will seek...

...tutorials will not compete with other show activities, which don't begin until Tuesday.
Concurrent **tutorials** held from 8:30 a.m. to 11:30 a.m. include: Basic Programmable Controllers, GRAFCET/Sequential Function Charts, The Real World of **Artificial Intelligence** in Manufacturing, Expert **Databases** in a Manufacturing Environment, and Introduction to Statistical **Process Control** .
Concurrent courses for the afternoon start at 1:30 p.m. and finish at 4...

20/3,K/36 (Item 5 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01320802 SUPPLIER NUMBER: 07537388 (USE FORMAT 7 OR 9 FOR FULL TEXT)
On-line expert systems in process industries.
Rowan, Duncan A.
AI Expert, v4, n8, p30(9)
August, 1989
ISSN: 0888-3785 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 5386 LINE COUNT: 00461

...ABSTRACT: receiving data mostly from sensor-based process monitoring and control systems. These respond in real- **time** to process problems. Advisory systems include trouble-shooting and product-selection applications using off-line information from **databases** along with keyboard input. Scheduling procedures need data on market **forecasts** , customer orders and equipment status.
... I. du Pont de Nemours & Co. Inc. (Du Pont) and the process industry in general, **AI** and expert systems are receiving much attention. Du Pont has an extensive program of expert-system applications, including advisory, scheduling, and **process - control** systems. Advisory systems encompass troubleshooting and product-selection applications that use off-line information from **databases** or data provided by question-and-answer keyboard input. Scheduling systems require information on the market **forecast** , customer orders, and plant equipment status. They establish practical constraints that narrow the search space and then search for an acceptable schedule. Scheduling systems run once a **day** to once every several **days** . **Process - control** systems include on-line expert systems that receive data primarily from sensor-based process monitoring and control systems and respond in real **time** to process problems.

```
Set     Items   Description
S1     712792   AI OR ARTIFICIAL()INTELLIGENCE OR SVM OR SUPPORT()VECTOR()-
            MACHIN? OR NEURAL()(NET? ? OR NETWORK?) OR NN OR NONLINEAR OR
            NON()LINEAR?
S2    5366398   PREDICT? OR FORECAST?  OR ESTIMAT? OR MODEL? OR SIMULAT?
S3    1092113   TRAIN?  OR LEARN? OR TEACH? OR TUTOR? OR INSTRUCT? OR EDUC-
            AT?
S4     337001   DATABASE? OR DATABANK? OR DATA()(BASE? OR BANK? OR FILE?) -
            OR DB OR DBMS OR DBS OR RDB OR RDBS OR RDBM OR OODB
S5    1778730   HISTOR? OR PREVIOUS? OR EARLIER OR PAST OR OLD OR LOGFILE?
S6     131847   PROCESS()(DATA OR CONDITION OR CONTROL?) OR DATA()STREAM? -
            OR PRODUCT()PROPERTIES
S7    2994858   MODULE? OR SET? ? OR GROUP? ? OR SESSION? OR DAY? ? OR TIM-
            ESTAMP? OR (DAY OR DATE OR TIME)()STAMP?
S8          6   S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7
S9        171   S1 AND (S2 OR S3) AND S4(3N)S5
S10        10   S6 AND S9
S11     62863   S7(2N)(MULTIPL? OR MANY OR SEVERAL OR PLURAL? OR VARIOUS? -
            OR EARLIER? OR PRIOR? OR PREVIOUS?)
S12         4   S9 AND S11
S13        18   S8 OR S10 OR S12
S14        16   RD (unique items)
S15        15   S14 NOT PY>2001
S16        15   S15 NOT PD>20011128
File   8:Ei Compendex(R) 1970-2003/Dec W5
         (c) 2003 Elsevier Eng.  Info. Inc.
File  35:Dissertation Abs Online 1861-2003/Dec
         (c) 2003 ProQuest Info&Learning
File  94:JICST-EPlus 1985-2003/Oct W4
         (c)2003 Japan Science and Tech Corp(JST)
File 144:Pascal 1973-2002/Dec W4
         (c) 2002 INIST/CNRS
File  99:Wilson Appl. Sci & Tech Abs 1983-2002/Nov
         (c) 2002 The HW Wilson Co.
File  95:TEME-Technology & Management 1989-2003/Dec W4
         (c) 2003 FIZ TECHNIK
```

16/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05963696 E.I. No: EIP01526777034
Title: Sensores virtuales basados en redes neurales
Title: Virtual sensors based on **neural networks**
Author: Vinante, C.; Abi Assali, W.
Corporate Source: Lab. de Controles e Instrumentacion Departamento de Automatica Universidad del Zulia, Maracaibo, Zulia, Venezuela
Source: Revista Tecnica de la Facultad de Ingenieria Universidad del Zulia v 24 n 2 August 2001. p 79-91
Publication Year: 2001
CODEN: RTFZDH ISSN: 0254-0770
Language: Spanish
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 0112W5
Abstract: In recent years, **neural networks** have been extensively used to **model** complex **nonlinear** chemical processes. This article studies their application in the development of virtual (software) sensors for product quality **prediction** . These sensors use, for the **training** and validation, information extracted from **historical** process operational **databases** . A method is proposed to select, out of the whole **set** of available measured process variables, an appropriate subset used as input to the software sensor. This method, based on principal component analysis and information theoric tests helps to discard redundant, superfluous and collinear variables, while keeping those that explain most of the variations of the sensors's output. To show an application of these procedures, product quality sensors for a refinery distillation unit are developed using operational **process data** . 15 Refs.
Descriptors: Sensors; Virtual reality; **Neural networks** ; **Database** systems; **Nonlinear** systems; Computer software; Regression analysis
Identifiers: Virtual sensors
Classification Codes:
732.2 (Control Instrumentation); 723.4 (Artificial Intelligence); 723.3 (Database Systems); 922.2 (Mathematical Statistics)
732 (Control Devices); 723 (Computer Software, Data Handling & Applications); 922 (Statistical Methods)
73 (CONTROL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

16/5/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05673925 E.I. No: EIP00095348137
Title: Improving intrusion detection performance using keyword selection and neural networks
Author: Lippmann, Richard P.; Cunningham, Robert K.
Corporate Source: MIT Lincoln Lab, Lexington, MA, USA
Source: Computer Networks v 34 n 4 Oct 2000. p 597-603
Publication Year: 2000
CODEN: CNETDP ISSN: 1389-1286
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 0011W4
Abstract: The most common computer intrusion detection systems detect signatures of known attacks by searching for attackspecific keywords in network traffic. Many of these systems suffer from high false-alarm rates (often hundreds of false alarms per day) and poor detection of new attacks. Poor performance can be improved using a combination of discriminative **training** and generic keywords. Generic keywords are selected to detect attack preparations, the actual break-in, and actions after the break-in. Discriminative **training** weights keyword counts to discriminate between the few attack sessions where keywords are known to occur and the **many** normal **sessions** where keywords may occur in other contexts. This approach was used to improve the baseline keyword intrusion detection system used to

detect user-to-root attacks in the 1998 DARPA Intrusion Detection Evaluation. It reduced the false-alarm rate required to obtain 80% correct detections by two orders of magnitude to roughly one false alarm per day. The improved keyword system detects new as well as **old** attacks in this **database** and has roughly the same computation requirements as the original baseline system. Both generic keywords and discriminant **training** were required to obtain this large performance improvement. (Author abstract) 14 Refs.

Descriptors: Internet; **Neural networks** ; Security of data; Data privacy; Signal detection; Computational complexity; Error correction; Telecommunication traffic; Congestion control (communication); Database systems

Identifiers: Intrusion detection systems

Classification Codes:

723.4 (Artificial Intelligence); 723.2 (Data Processing); 716.1 (Information & Communication Theory); 721.1 (Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory); 723.3 (Database Systems)

723 (Computer Software); 716 (Radar, Radio & TV Electronic Equipment); 721 (Computer Circuits & Logic Elements)

72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS)

16/5/3 (Item 3 from file: 8)

04796319 E.I. No: EIP97083799207

Title: Temporal management using relative time in knowledge-based process control

Author: Knight, Brian; Ma, Jixin

Corporate Source: Univ of Greenwich, London, Engl

Source: Engineering Applications of Artificial Intelligence v 10 n 3 Jun 1997. p 269-280

Publication Year: 1997

CODEN: EAAIE6 ISSN: 0952-1976

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9710W3

Abstract: In this paper, a knowledge-based approach is proposed for the management of temporal information in **process control** . A common-sense theory of temporal constraints over processes/events, allowing relative temporal knowledge, is employed here as the temporal basis for the system. This theory supports duration reasoning and consistency checking, and accepts relative temporal knowledge which is in a form normally used by human operators. An architecture for **process control** is proposed which centres on an **historical database** consisting of events and processes, together with the qualitative temporal relationships between their occurrences. The dynamics of the system is expressed by means of three types of rule: **database** updating rules, **process control** rules, and data deletion rules. An example is provided in the form of a life scheduler, to illustrate the **database** and the rule **sets** . The example demonstrates the transitions of the **database** over time, and identifies the procedure in terms of a state transition **model** for the application. The dividing instant problem for logical inference is discussed with reference to this **process control** example, and it is shown how the temporal theory employed can be used to deal with the problem. (Author abstract) 24 Refs.

Descriptors: Knowledge based systems; **Process control** ; **Database** systems; **Learning** systems; Information management; Inference engines; Mathematical **models** ; **Artificial intelligence**

Identifiers: Knowledge based **process control** ; Processes events; Relative time; Temporal **databases**

Classification Codes:

723.4.1 (Expert Systems)

723.4 (Artificial Intelligence); 731.1 (Control Systems); 723.3 (Database Systems); 921.6 (Numerical Methods)

723 (Computer Software); 731 (Automatic Control Principles); 921 (Applied Mathematics)
72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING); 92 (ENGINEERING MATHEMATICS)

16/5/4 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04329659 E.I. No: EIP95112925777
Title: CAPP perspective
Author: Houtzeel, Alexander
Corporate Source: HMS Software, Inc, Waltham, MA, USA
Source: Modern Machine Shop v 68 n 6 Nov 1995. p 72-79
Publication Year: 1995
CODEN: MMASAY ISSN: 0026-8003
Language: English
Document Type: JA; (Journal Article) Treatment: G; (General Review)
Journal Announcement: 9603W3
Abstract: An important step in converting a design concept into a manufactured product is process planning. In this step, a complete package of information on how to perform the manufacturing process is created, which may include work **instructions** for the shop floor, a bill of material, a quality control plan, and tool planning among others. The introduction of computers into manufacturing has certainly made the planning function more efficient. Moreover, with the comparative capabilities brought about by computer-aided process planning (CAPP), it becomes easier to find which plan best uses the facility's capabilities, which can be used for **estimating** future work, which is best for scheduling, and which plan reflects the best practice based on **past** experience. Some of the factors that must considered when using CAPP are presented and discussed.
Descriptors: Computer aided manufacturing; **Process control** ; Planning; User interfaces; Machine shops; **Database** systems; Computer software; **Artificial intelligence** ; Information management; Information retrieval systems
Identifiers: Computer aided process planning; Product data management; **Group** technology; Manufacturing information management
Classification Codes:
913.4.2 (Computer Aided Manufacturing)
913.4 (Manufacturing); 731.3 (Specific Variables Control); 722.2 (Computer Peripheral Equipment); 604.2 (Machining Operations); 723.3 (Database Systems); 723.1 (Computer Programming)
913 (Production Planning & Control); 731 (Automatic Control Principles) ; 722 (Computer Hardware); 604 (Metal Cutting & Machining); 723 (Computer Software)
91 (ENGINEERING MANAGEMENT); 73 (CONTROL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 60 (MECHANICAL ENGINEERING)

16/5/5 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03846200 E.I. No: EIP94041268451
Title: Applications of object-oriented approaches to neural networks **in fault diagnosis**
Author: Chang, Shao-Hung; Chen, Jiann-Liang; Tzeng, Huan-Wen; Hong, Chin-Ming
Corporate Source: Feng-Chia Univ, Taichung, Taiwan
Conference Title: Proceedings of the 32nd IEEE Conference on Decision and Control
Conference Location: San Antonio, TX, USA Conference Date: 19931215-19931217
Sponsor: IEEE
E.I. Conference No.: 20202
Source: Proceedings of the IEEE Conference on Decision and Control v 4

1993. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA. p 3708-3709
Publication Year: 1993
CODEN: PCDCDZ ISSN: 0191-2216 ISBN: 0-7803-1298-8
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications); T ; (Theoretical)
Journal Announcement: 9406W1
Abstract: A fault diagnosis system incorporating object-oriented programming **models** into a **neural network** is developed and reported in the paper. At the same time, to draw an inference efficiently, back-propagation **learning** rules, statistical **process control** , and alpha-beta depth-first algorithm are also embedded in the system. For the purpose of fault diagnosis, the object-oriented multilayer perceptron network is first **trained** by the back-propagation **learning** rule. Then, the statistical **process control** is used to analyze the trends by **historical** data and detect suspicious components. At last, by means of the alpha-beta search technology, the most plausible fault candidates and the rank of those candidates are generated speedily. (Author abstract) 2 Refs.
Descriptors: **Neural networks** ; Object oriented programming; Computer **simulation** ; **Learning** systems; **Process control** ; Statistical methods; Algorithms; Electric fault currents; **Database** systems; Fuzzy **sets**
Identifiers: Fault diagnosis system; Multilayer perceptron network; Back propagation **learning** rule; Alpha beta search algorithm; Statistical **process control**
Classification Codes:
723.4 (Artificial Intelligence); 723.1 (Computer Programming); 723.5 (Computer Applications); 731.3 (Specific Variables Control); 922.2 (Mathematical Statistics); 921.6 (Numerical Methods)
723 (Computer Software); 731 (Automatic Control Principles); 922 (Statistical Methods); 921 (Applied Mathematics)
72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING); 92 (ENGINEERING MATHEMATICS)

16/5/6 (Item 6 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03741363 E.I. No: EIP93101117589
Title: Model **for temporal management in** process control
Author: Ma, Jixin; Knight, B.
Corporate Source: Univ of Greenwich, London, Engl
Conference Title: Proceedings of the 8th International Conference on Applications of Artificial Intelligence in Engineering
Conference Location: Toulouse, Fr Conference Date: 1993
E.I. Conference No.: 19111
Source: Applications and Techniques Applications of Artificial Intelligence in Engineering v 2 1993. Publ by Computational Mechanics Publ, Southampton, Engl. p 249-262
Publication Year: 1993
CODEN: AAIEEO ISBN: 1-85166-839-X
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical); A; (Applications)
Journal Announcement: 9312W4
Abstract: Temporal reasoning plays an essential role in many **process control** systems, where the history is an important factor in deciding operational control. A problem with traditional **historical database** is that the volume of historical data required very large and lead to unnecessary inefficiencies. In this paper, we give a general system for the efficient management of temporal histories using application specific knowledge to determine the storage form. The system is based on an extension of Allen's interval based temporal logic. An illustrative example of the system as applied to **process control** is provided. (Author abstract) 13 Refs.
Descriptors: **Process control** ; Control systems; **Artificial intelligence** ; Mathematical **models**
Identifiers: Temporal management; Temporal reasoning; Temporal logic;

Operational control
Classification Codes:
731.1 (Control Systems); 723.4 (Artificial Intelligence)
731 (Automatic Control Principles); 723 (Computer Software); 921 (Applied Mathematics)
73 (CONTROL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

16/5/7 (Item 7 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03605204 E.I. Monthly No: EIM9305-026695
Title: Application of artificial neural networks **and partial least squares regression for** modelling **Kappa number in a continuous Kamyr digester.**
Author: Dayal, B.; MacGregor, J. F.; Taylor, P. A.; Kildaw, R.; Marcikie, S.
Corporate Source: McMaster Univ, Hamilton, Ont, Can
Conference Title: Control System '92 Conference
Conference Location: Whistler, BC, Can Conference Date: 19920929
E.I. Conference No.: 17465
Source: Control System '92. Publ by Canadian Pulp & Paper Assoc, Montreal, Que, Can. p 191-196
Publication Year: 1992
Language: English
Document Type: PA; (Conference Paper) Treatment: A; (Applications); T; (Theoretical)
Journal Announcement: 9305
Abstract: Due to the lack of on-line sensors many important quality variables in pulp and paper manufacture are only measured infrequently and off-line in a quality control laboratory. Hence, there is a great incentive to build inferential **models** from plant data that are capable of **predicting** these quality variables on a more frequent basis. Such **models** can be used to monitor the process operation or, with suitable precautions, to build inferential controllers for these variables. In certain situations these **models** can also be used to improve our understanding of the effect of various process variables. Although the preferable way to collect **process data** for building such **models** is through statistically designed plant experiments, normal process operating records provide a good **historical data base** . In this paper we investigate the use of artificial **neural networks** and partial least squares regression to build empirical **models** for Kappa number using historical data from a continuous Kamyr digester. The basic ideas behind the two approaches will be presented and their advantages and disadvantages discussed. The **predictive** abilities of the resulting **models** and their limitations are evaluated using additional data from the digester. (Author abstract) 17 Refs.
Descriptors: PULP DIGESTERS; CONTROL SYSTEMS; **NEURAL NETWORKS** ; PULP MANUFACTURE; LEAST SQUARES APPROXIMATIONS; QUALITY CONTROL; MATHEMATICAL **MODELS**
Identifiers: KAPPA NUMBER **MODELS** ; PRUNED VARIABLES; KAMYR DIGESTER; EMPIRICAL **MODELS** ; HISTORICAL PLANT DATA
Classification Codes:
811 (Cellulose, Paper & Wood Products); 731 (Automatic Control Principles); 723 (Computer Software); 913 (Production Planning & Control) ; 922 (Statistical Methods); 921 (Applied Mathematics)
81 (CHEMICAL PROCESS INDUSTRIES); 73 (CONTROL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 91 (ENGINEERING MANAGEMENT); 92 (ENGINEERING MATHEMATICS)

16/5/8 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01563526 ORDER NO: AAD97-19719

PROCESS CONTROL **UTILIZING DATA-BASED** MODELS : **APPLICATIONS OF STATISTICAL TECHNIQUES AND** NEURAL NETWORKS **(MONITORING,** PREDICTIVE **CONTROL, PCA, MPC)**

Author: CHEN, GANG
Degree: PH.D.
Year: 1996
Corporate Source/Institution: UNIVERSITY OF MARYLAND COLLEGE PARK (0117)
Chairman: THOMAS J. MCAVOY
Source: VOLUME 58/01-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 297. 200 PAGES
Descriptors: ENGINEERING, CHEMICAL ; ENGINEERING, INDUSTRIAL ; ENGINEERING, SYSTEM SCIENCE
Descriptor Codes: 0542; 0546; 0790

There is an increasing demand in chemical industry to produce high quality products at low cost. Such an objective can be achieved through optimal operation of chemical plants. Optimal operation primarily depends upon reliable control schemes and good understanding of chemical processes. It has been demonstrated by many industrial applications that statistical techniques and **neural networks** are useful tools in using readily available plant data to **model** chemical processes. This dissertation investigates some new approaches to the applications of statistical techniques and **neural networks** .

Based on multivariate statistical methods, namely multi-way principal component analysis (MPCA) and multi-block principal component analysis, a dynamic monitoring approach has been developed for continuous processes. By arranging the dynamic data into a three-dimensional array and projecting the array into a low dimensional space defined by principal components, dynamic processes can be easily monitored by tracking their progress in the low dimensional space. A promising feature of the monitoring approach is its ability to **predict** faults. The application results show that the dynamic monitoring approach has many advantages over existing approaches. A multi-block monitoring approach for large continuous processes is also discussed. The application results show that the multi-block monitoring approach has a timing advantage over single block approaches and it is helpful in locating the process faults.

The statistical concept of representing processes by latent variables has been applied in **process control** . The goal is to decrease the variations in product quality without on line quality measurements. The controlled variables are defined by the variations embedded in the **process data** using a PCA technique. The control objective is defined as maintaining the latent variables within a certain acceptable region defined from **historical data based** on the assumption of an implicit correlation between measurements and quality variables. A steady state controller is designed using static PCA **models** . For dynamic processes, MPCA is used to **model** the performance of continuous processes. This controller is usually developed from and implemented on top of an existing conventional PID control system. Limited experimental testing is required to develop the controller. **Model predictive** control (MPC) is used to formulate the control algorithm. Examples show excellent results for both the steady state and dynamic cases.

16/5/9 (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01385097 ORDER NO: AAD94-32680
AN EVALUATION OF THE USE OF AN ARTIFICIAL NEURAL NETWORK **TO ANALYZE THE EFFECT OF STARTUP MILK PRODUCTION ON REPRODUCTIVE PERFORMANCE OF HIGH PRODUCING HOLSTEIN DAIRY CATTLE**

Author: FOURDRAINE, ROBERT HANS
Degree: PH.D.
Year: 1994
Corporate Source/Institution: TEXAS A&M UNIVERSITY (0803)
Chair: MICHAEL A. TOMASZEWSKI
Source: VOLUME 55/07-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 2442. 126 PAGES

Descriptors: AGRICULTURE, GENERAL; COMPUTER SCIENCE; **ARTIFICIAL INTELLIGENCE**
Descriptor Codes: 0473; 0984; 0800

Through the use of an artificial **neural network** the analysis of reproductive performance in high producing dairy cattle using startup lactation information was evaluated. Data was obtained from monthly DHIA tapes and used to build a **database** utilizing current and **historical** lactation records from both multiparous and primiparous cows.

A preliminary statistical analysis was conducted to identify those variables that showed the largest influence upon days open. These variables were then used to define the **training** datasets. **Training** was performed with two different **neural network** structures, one hidden layer versus two hidden layers. Initial **neural network** results showed that neither of the **neural networks** improved **training** and testing results (from the start of **training**).

A statistical analysis was performed to identify those parameters that have the largest influence upon days open. These parameters (**previous days** open, **previous** lactation last milk weight, first milk weight, change in milk production from test day 1 to test day 2, change in milk production from test 2 and test day 3, days dry, difference between milk fat and protein for 1st test day, average milk weight for test day 2 and test day 3, average milk weight for test day 1 and test day 3, and protein average for test day 1 and test day 3) were used to define new **training** datasets. Both **neural networks** performed at a higher level with the number of correctly **estimated** days open increasing dramatically (92% correct). However, the margin in which days open is **estimated** allowed a plus or minus 30-day range from the actual days open. When the days open margin was reduced to a smaller range of days, the effect was poor **training** and testing results. These results were attributed to numerous contradictions in the data. An analysis of variance was performed for primiparous and multiparous cows with the goal of identifying those variables that statistically differed across days open intervals. Only **previous** lactation **days** open, days dry and protein percent showed statistical significance (P $<$ 0.05).

16/5/10 (Item 3 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01233576 ORDER NO: AAD92-21513
PARALLEL ARC CONSISTENCY ALGORITHMS FOR PRE-PROCESSING CONSTRAINT SATISFACTION PROBLEMS (ARC CONSISTENCY)
Author: CONRAD, JAMES MICHAEL
Degree: PH.D.
Year: 1992
Corporate Source/Institution: NORTH CAROLINA STATE UNIVERSITY AT RALEIGH (0155)
Director: DHARMA P. AGRAWAL
Source: VOLUME 53/03-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 1461. 164 PAGES
Descriptors: COMPUTER SCIENCE; ENGINEERING, ELECTRONICS AND ELECTRICAL; **ARTIFICIAL INTELLIGENCE**
Descriptor Codes: 0984; 0544; 0800

Constraint satisfaction problems (CSPs) are prevalent in **artificial intelligence** applications. Versions of CSPs occur in areas such as resource scheduling, semantic information processing, theorem proving, image processing and **database** retrieval. Backtracking is often used to solve these CSPs. Straightforward backtracking algorithms, however, are inadequate for solving large problems because they exhibit an excessive amount of thrashing. One approach is to pre-process the problem by eliminating variable assignments which can never result in a solution. This can be done by using consistency algorithms to pre-process a network of constraints before the tree search.

In this dissertation we introduce three Static Parallel Arc Consistency algorithms (SPAC-1, SPAC-2 and SPAC-3) designed for any

general-purpose Multiple **Instruction** - stream, Multiple **Data** - **stream** (MIMD) computer. These algorithms are unique because specific parts of a CSP are assigned to specific processors (unlike **previous** approaches). We ensure arc consistency of a finite domain binary constraint network. Sample traces characterize the work performed by each processor of a parallel computer. Through **simulation** and actual machine experimentation we measure work performed by the SPAC algorithms and compare it with work performed by existing sequential algorithms, AC-1 and AC-3. Results show that our parallel arc consistency algorithms can be effectively used to pre-process a constraint network.

The algorithms' effectiveness is further demonstrated for large constraint networks on a distributed memory multiprocessor. Several graph partitioning algorithms used for load balancing are examined, along with different communications frequencies. We also propose the use of these Static Parallel Arc Consistency algorithms to aid in the design of interconnection link assignment for multi-chip **module** packaging.

16/5/11 (Item 4 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01169603 ORDER NO: AAD91-21711
SYSTEM CULTIVATION: PROCESS MONITORING AND CONTROL USING THE HISTORICAL DATABASE
Author: FARELL, ANDREW EARL
Degree: PH.D.
Year: 1990
Corporate Source/Institution: THE UNIVERSITY OF TENNESSEE (0226)
Major Professor: C. F. MOORE
Source: VOLUME 52/03-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 1584. 240 PAGES
Descriptors: ENGINEERING, CHEMICAL
Descriptor Codes: 0542

Process computers are playing an increasingly important role in the chemical industry. They not only provide a system in which to implement modern control concepts but also a framework in which large amounts of **process data** can be collected and stored cheaply and efficiently. Today, at the fingertips of process engineers lies a vast amount of historical data, containing a wealth of information about the operation of the process. Unfortunately the engineer is often overwhelmed by the volume of data. Subtleties which could be helpful in improving the operation of the process systems can be easily lost in the vastness of numbers and records.

A recent perspective in **process control** , system cultivation focuses on the day-to-day analysis and evaluation of the operation of the process and its control system. As today's processes become more complex and the control systems for these processes become more sophisticated, this perspective is becoming increasingly important. The often fragile nature of these complex designs demands the ability to monitor, detect, and diagnose problems quickly. System cultivation is also concerned with studying the normal operation of the process for making continual improvements. There should always be room for improvement. Analyzing the **historical data base** properly will provide clues and directions which would improve even the normal conditions of operations.

This dissertation works towards three objectives. First, it refines two existing cultivation tools: hypothesis feedback **modeling** and time-shifted distribution analysis. Second, it introduces pattern recognition and **neural networks** to the cultivation framework. Finally, the primary objective develops a framework that incorporates several cultivation tools for effectively detecting and identifying subtle operational changes. Two **simulated** unit operations, a heat exchanger and a continuous stirred-tank reactor, aid in developing and demonstrating these cultivation concepts.

16/5/12 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

14657598 PASCAL No.: 00-0330075
Discovery of operational spaces from process data **for production of multiple grades of products**
CHEN F Z; WANG X Z
Department of Chemical Engineering, The University of Leeds, Leeds LS2 9JT, United Kingdom
Journal: Industrial & engineering chemistry research, 2000, 39 (7) 2378-2383
ISSN: 0888-5885 CODEN: IECRED Availability: INIST-120F; 354000088861200290
No. of Refs.: 27 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English
An industrial case study is presented which uses principal component analysis (PCA) to identify operational spaces and develop operational strategies for manufacturing desired products. Analysis of a **historical database** of 303 data cases from a refinery fluid catalytic cracking process discovered that the data are projected to four operational zones in the reduced two-dimensional plane. Three zones were found to correspond to three different product grades, and the fourth is a zone that has a high probability of product off-specification and is very likely caused by product changeover. Variable contribution analysis was also conducted to identify the most important variables that are responsible for the observed operational spaces, and consequently strategies were developed for monitoring and operating the process in order to be able to move the operation from producing one product grade to another, with minimum time delays.

English Descriptors: Refinery; Fluid catalytic cracking; State **estimation** ; Feedforward **neural nets** ; Data analysis; Principal component analysis; Software sensor

French Descriptors: Raffinerie; Craquage catalytique fluide; **Estimation** etat; Reseau neuronal non boucle; Analyse donnee; Analyse composante principale; Capteur logiciel

Classification Codes: 001D06B02D; 230

16/5/13 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

13833885 PASCAL No.: 99-0009792
Genetic-based on-line learning **for fuzzy** process control **Genetic fuzzy systems**
VELASCO J R
HERRERA Francisco, ed; MAGDALENA Luis, ed
Departamento Ingenieria de Sistemas Telematicos, ETSI Telecomunicacion, Universidad Politecnica de Madrid, Madrid 28040, Spain
Department of Computer Science and Artificial Intelligence, E.T.S. Ingenieria Informatica, University of Granada, 18071 Granada, Spain; Department of Applied Mathematics, E.T.S.I. de Telecomunicacion, Politechnic University of Madrid, 28040 Madrid, Spain
Journal: International journal of intelligent systems, 1998, 13 (10-11) 891-903
ISSN: 0884-8173 CODEN: IJISED Availability: INIST-21189; 354000070088330010
No. of Refs.: 16 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English

This paper deals with the problem of continuous **learning** in **process control** . Conventional machine **learning** applied to **process control** tries to obtain control rules from an **historic data file** or a **model** . However, these **learned** rules may be useless if the real process changes, and this is not unusual. To try to solve this problem, genetic algorithms can be used in a continuous **learning** environment. However, genetically generated rules do not guarantee that they are good enough to control the process. New rules should be tested before their insertion into the knowledge base: this is the function of Limbo. Limbo is a special place where rules can be tested in real situations before being used. This paper shows how Limbo can be used to improve continuous **learning** .

English Descriptors: **Process control** ; Fuzzy logic; Genetic algorithm; Fuzzy control; **Artificial intelligence** ; Knowledge base; Intelligent system

French Descriptors: Commande processus; Logique floue; Algorithme genetique ; Commande floue; Intelligence artificielle; Base connaissance; Systeme intelligent

Classification Codes: 001D02D09; 001D02C01

16/5/14 (Item 1 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01427042 20000701230
Feed type based expert systems in mineral processing plants
(An die Art der Beschickung anpassbare Expertensysteme in Erzaufbereitungsanlagen)
Jaemsae-Jounela, S-L; Laine, S; Laurila, H
Helsinki Univ. of Technol., SF; KCL, Espoo, SF; Outokumpu Mintec, Espoo, SF
Control and Optimization in Minerals, Metals and Materials Processing, Proc. of the Internat. Symp., 38th Annual Conf of Metallurgists of CIM, Quebec City, CDN, Aug 22-26, 19991999
Document type: Conference paper Language: English
Record type: Abstract
ISBN: 0-919086-88-8

ABSTRACT:
Artificial Intelligence includes excellent tools for the control and supervision of industrial processes. Several thousand industrial applications have been reported worldwide. Recently, the designers of the **AI** systems have begun to hybridize the intelligent techniques, expert systems, fuzzy logic and **neural networks** , to enhance the capability of the **AI** systems. Expert systems have proved to be ideal candidates especially for the control of mineral processes. As successful case projects, expert system based on on-line classification of the feed type is described in this paper. The essential feature of this expert system is the classification of different feed types and their distinct control strategies at the plant. In addition to the classification, the expert system has a database containing information about how to handle the determined feed type. This self- **learning database** scans **historical process data** to suggest the best treatment for the ore type under processing. The system has been tested in two concentrators, the Outokumpu Finnmines Oy, Hitura mine and Outokumpu Chrome Oy, Kemi mine.

DESCRIPTORS: ORE PROCESSING; FEEDER; **ARTIFICIAL INTELLIGENCE** ; EXPERT SYSTEMS; CLASSIFYING; CONTROL SYSTEMS; STRATEGIES; **LEARNING** SYSTEMS; DATA BANK; ARTIFICIAL **NEURAL NETWORKS**
IDENTIFIERS: Erzaufbereitung; Expertensystem; Regelungssystem

16/5/15 (Item 2 from file: 95)

01168752 I98011021300

A majority rules approach to data mining

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Dept. of Comput. Sci., Mankato State Univ., MN, USA

Proceedings. Intelligent Information Systems. IIS'97 (Cat. No.97TB100201), 8-10 Dec. 1997, Grand Bahama Island, Bahamas1997
Document type: Conference paper Language: English
Record type: Abstract
ISBN: 0-8186-8218-3

ABSTRACT:
Knowledge discovery in **databases** (KDD) offers a methodology for developing tools to extract meaningful knowledge from large volumes of data. We propose a generalized KDD **model** for supervised **training** . A main step in this **process** , **data** mining, involves the creation of a classification structure that is representative of the concept classes identified in the data **set** . Data mining incorporates **learning** which may be supervised or unsupervised and often uses statistical as well as heuristic (machine **learning**) techniques. **Previous** research has shown that different supervised models perform better under certain conditions. We tested the extent of overlap of instance classifications between five supervised models in two real world domains. Experimental results showed that in one domain all five models classified 75.8% of the instances identically, correct or incorrect. In the second domain, the corresponding figure was 63.3%. The amount of agreement between models can be used to help determine the nature of the domain and the applicability of a supervised **learning** approach. We extend the above experimental result and propose a multi **model** majority rules (MR) data mining technique to **learn** about the nature of a given domain. We conclude with directions for future work.

DESCRIPTORS: KNOWLEDGE ACQUISITION; EXPERT SYSTEMS; **LEARNING** -- **ARTIFICIAL INTELLIGENCE** ; **LEARNING** SYSTEMS
IDENTIFIERS: DEDUKTIVE DATENBANK; MEHRHEITSREGELNAEHERUNG; KLASSIFIKATIONSSTRUKTUR; WISSENSENTDECKUNG IN DATENBANKEN; UEBERWACHTE SCHULUNG; DATENGEWINNUNG; ANS TAGESLICHT BEFOERDERN VON DATEN; Mehrheitsregelnaeherung; Ans-Tageslicht-Befoerdern von Daten

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Set      Items   Description
S1       99784   AI OR ARTIFICIAL()INTELLIGENCE OR SVM OR SUPPORT()VECTOR()-
             MACHIN? OR NEURAL()(NET? ? OR NETWORK?) OR NN OR NONLINEAR OR
             NON()LINEAR?
S2      336867   PREDICT? OR FORECAST?  OR ESTIMAT? OR MODEL? OR SIMULAT?
S3      305605   TRAIN?  OR LEARN? OR TEACH? OR TUTOR? OR INSTRUCT? OR EDUC-
             AT?
S4      154772   DATABASE? OR DATABANK? OR DATA()(BASE? OR BANK? OR FILE?) -
             OR DB OR DBMS OR DBS OR RDB OR RDBS OR RDBM OR OODB
S5      646225   HISTOR? OR PREVIOUS? OR EARLIER OR PAST OR OLD OR LOGFILE?
S6       37929   PROCESS()(DATA OR CONDITION OR CONTROL?) OR DATA()STREAM? -
             OR PRODUCT()PROPERTIES
S7      937761   MODULE? OR SET? ? OR GROUP? ? OR SESSION? OR DAY? ? OR TIM-
             ESTAMP? OR (DAY OR DATE OR TIME)()STAMP?
S8          23   S1(S)S2(S)S3(S)S4(S)S5(S)S6(S)S7
S9           3   S8 AND IC=(G06F-019? OR G06F-017?)
S10         13   S1(5N)S7(10N)S4(2N)S5(S)S6
S11         11   S10 AND IC=G06F?
S12         14   S9 OR S11
S13         14   IDPAT (sorted in duplicate/non-duplicate order)
S14          9   IDPAT (primary/non-duplicate records only)
File 348:EUROPEAN PATENTS 1978-2002/Dec W03
         (c) 2002 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20030102,UT=20021226
         (c) 2003 WIPO/Univentio
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European + PCT Files

14/5/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00509427
COMPUTER NEURAL NETWORK PROCESS CONTROL SYSTEM
NEURONALES NETZWERK FUR PROZESSSTEUERUNGSSYSTEM
SYSTEME DE REGULATION DE COMMANDE DE PROCESSUS PAR RESEAU NEURONAL
PATENT ASSIGNEE:
E.I. DU PONT DE NEMOURS AND COMPANY, (200580), 1007 Market Street, Wilmington Delaware 19898, (US), (applicant designated states: BE;DE;FR;GB;IT;NL)
INVENTOR:
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LEGAL REPRESENTATIVE:
Beresford, Keith Denis Lewis et al (28273), BERESFORD & Co. 2-5 Warwick Court High Holborn, London WC1R 5DJ, (GB)
PATENT (CC, No, Kind, Date): EP 495092 A1 920722 (Basic)
EP 495092 B1 981209
WO 9202895 920220
APPLICATION (CC, No, Date): EP 91917638 910725; WO 91US5256 910725
PRIORITY (CC, No, Date): US 562462 900803
DESIGNATED STATES: BE; DE; FR; GB; IT; NL
INTERNATIONAL PATENT CLASS: **G06F-015/80**
CITED REFERENCES (WO A):
IJCNN INTERNATIONAL JOINT CONFERENCE ON NEURAL NETWORKS vol. 1, 19 June 1989, WASHINGTON,USA pages 209 - 216; WERBOS: 'Backpropagation and neurocontrol : a review and prospectus'
see page 209, left column, line 1 - right column, line 25
see page 210, right column, line 2 - page 213, right column, line 19; figures 1-6
IJCNN INTERNATIONAL JOINT CONFERENCE ON NEURAL NETWORKS vol. 3, 17 June 1990, SAN DIEGO,USA pages 155 - 160; BABA: 'Explicit representation of knowledge acquired from plant historical data using neural network'
see page 155, line 1 - page 160, line 30; figures 1-4
IJCNN INTERNATIONAL JOINT CONFERENCE ON NEURAL NETWORKS vol. 3, 17 June 1990, SAN DIEGO ,USA pages 309 - 314; WANG: 'Self-Adaptive Neural Architectures for Control Applications'
see page 309, line 1 - page 312, line 12; figures 3.1-3.3
ISA PROCEEDINGS. vol. 45, no. 2, 14 October 1990, PITTSBURGH US pages 991 - 1004; SCHNELLE: 'Using neural based process modeling for measurement inference' see the whole document;
NOTE:
No A-document published by EPO
LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	920722	A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	920722	A1	Date of filing of request for examination: 920501
Examination:	950125	A1	Date of despatch of first examination report: 941213
Grant:	981209	B1	Granted patent
Lapse:	990811	B1	Date of lapse of European Patent in a contracting state (Country, date): BE 19981209,
Oppn None:	991201	B1	No opposition filed: 19990910

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9850	781
CLAIMS B	(German)	9850	646
CLAIMS B	(French)	9850	884
SPEC B	(English)	9850	21687
Total word count - document A			0
Total word count - document B			23998
Total word count - documents A + B			23998

14/5/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00508315
ON-LINE PROCESS CONTROL NEURAL NETWORK USING DATA POINTERS
NEURONALES NETZWERK MIT DATENZEIGERN FUR DIE ON-LINE STEUERUNG EINES PROZESSES
RESEAU NEURONAL DE COMMANDE DE PROCESSUS EN DIRECT UTILISANT DES POINTEURS DE DONNEES

PATENT ASSIGNEE:
E.I. DU PONT DE NEMOURS AND COMPANY, (200580), 1007 Market Street, Wilmington Delaware 19898, (US), (applicant designated states: BE;DE;FR;GB;IT;NL)
INVENTOR:
SKEIRIK, Richard, D., 11 Beech Hill Drive, Newark, DE 19711, (US)
LEGAL REPRESENTATIVE:
Beresford, Keith Denis Lewis et al (28273), BERESFORD & Co. 2-5 Warwick Court High Holborn, London WC1R 5DJ, (GB)

PATENT (CC, No, Kind, Date): EP 495085 A1 920722 (Basic)
EP 495085 B1 971119
WO 9202864 920220
APPLICATION (CC, No, Date): EP 91915833 910725; WO 91US5253 910725
PRIORITY (CC, No, Date): US 562388 900803
DESIGNATED STATES: BE; DE; FR; GB; IT; NL
INTERNATIONAL PATENT CLASS: G05B-013/02; **G06F-015/76**
NOTE:
No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	920722	A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	920722	A1	Date of filing of request for examination: 920501
Change:	930310	A1	Designated Contracting States (change)
Examination:	941026	A1	Date of despatch of first examination report: 940912
*Assignee:	970423	A1	Applicant (transfer of rights) (change): E.I. DU PONT DE NEMOURS & CO. (INC.) (1065784) 1007 Market Street Wilmington Delaware 19898 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
*Assignee:	970423	A1	Previous applicant in case of transfer of rights (change): E.I. DU PONT DE NEMOURS AND COMPANY (200580) 1007 Market Street Wilmington Delaware 19898 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
*Assignee:	970716	A1	Applicant (transfer of rights) (change): E.I. DU PONT DE NEMOURS AND COMPANY (200580) 1007 Market Street Wilmington Delaware 19898 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
*Assignee:	970716	A1	Previous applicant in case of transfer of rights (change): E.I. DU PONT DE NEMOURS & CO. (INC.) (1065784) 1007 Market Street Wilmington Delaware 19898 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
Grant:	971119	B1	Granted patent
Lapse:	981111	B1	Date of lapse of the European patent in a Contracting State: BE 971119
Oppn None:	981111	B1	No opposition filed
Lapse:	991020	B1	Date of lapse of European Patent in a contracting state (Country, date): BE 19971119, IT 19971119,

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9711W2	1682

CLAIMS B	(German)	9711W2	1529
CLAIMS B	(French)	9711W2	2154
SPEC B	(English)	9711W2	23108

Total word count - document A 0
Total word count - document B 28473
Total word count - documents A + B 28473

14/5/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00508152
COMPUTER NEURAL NETWORK SUPERVISORY PROCESS CONTROL SYSTEM AND METHOD
VORRICHTUNG UND VERFAHREN, AUSGESTATTET MIT EINEM COMPUTERISIERTEN NEURONALEN NETZWERK, ZUM UBERWACHEN EINER PROZESSSTEUERUNG
PROCEDE ET SYSTEME DE SURVEILLANCE DE COMMANDE DE PROCESSUS PAR RESEAU NEURONAL INFORMATISE
PATENT ASSIGNEE:
E.I. DU PONT DE NEMOURS AND COMPANY, (200580), 1007 Market Street, Wilmington Delaware 19898, (US), (applicant designated states: BE;DE;FR;GB;IT;NL)
INVENTOR:
SKEIRIK, Richard, D., 11 Beech Hill Drive, Newark, DE 19711, (US)
LEGAL REPRESENTATIVE:
Beresford, Keith Denis Lewis et al (28273), BERESFORD & Co. 2-5 Warwick Court High Holborn, London WC1R 5DJ, (GB)
PATENT (CC, No, Kind, Date): EP 495080 A1 920722 (Basic)
EP 495080 B1 971029
WO 9202865 920220
APPLICATION (CC, No, Date): EP 91915577 910725; WO 91US5254 910725
PRIORITY (CC, No, Date): US 562268 900803
DESIGNATED STATES: BE; DE; FR; GB; IT; NL
INTERNATIONAL PATENT CLASS: G05B-013/02; **G06F-015/80**
CITED PATENTS (WO A): WO 8903092 A
CITED REFERENCES (WO A):
PROCEEDINGS OF THE 1990 AMERICAN CONTROL CONFERENCE vol. 3, 23 May 1990, SAN DIEGO US pages 2173 - 2178; P.A. LANT ET AL.: 'a comparison of adaptive estimation with neural based techniques for bioprocess application' see page 2175, left column, line 5 - line 31 see page 2176, left column, line 1 - line 52;
SA 51293 030figure 1
1989 IEEE INTERNATIONAL CONFERENCE ON SYSTEMS, MAN, AND CYBERNETICS vol. 1, November 1989, CAMBRIDGE US pages 315 - 320; D.J. SOBAJIC ET AL.: 'robust control of nonlinear systems using pattern recognition' see paragraph 3.2 -paragraph 3.3; figures 3,6,7,11;
NOTE:
No A-document published by EPO
LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	920722	A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	920722	A1	Date of filing of request for examination: 920501
Examination:	940831	A1	Date of despatch of first examination report: 940714
*Assignee:	970409	A1	Applicant (transfer of rights) (change): E.I. DU PONT DE NEMOURS & CO. (INC.) (1065784) 1007 Market Street Wilmington Delaware 19898 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
*Assignee:	970409	A1	Previous applicant in case of transfer of rights (change): E.I. DU PONT DE NEMOURS AND COMPANY (200580) 1007 Market Street Wilmington Delaware 19898 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
*Assignee:	970716	A1	Applicant (transfer of rights) (change): E.I. DU PONT DE NEMOURS AND COMPANY (200580) 1007 Market Street Wilmington Delaware 19898 (US)

			(applicant designated states: BE;DE;FR;GB;IT;NL)
*Assignee:		970716	A1 Previous applicant in case of transfer of rights (change): E.I. DU PONT DE NEMOURS & CO. (INC.) (1065784) 1007 Market Street Wilmington Delaware 19898 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
Grant:		971029	B1 Granted patent
Oppn None:		981021	B1 No opposition filed
Lapse:		981111	B1 Date of lapse of the European patent in a Contracting State: BE 971029
Lapse:		991020	B1 Date of lapse of European Patent in a contracting state (Country, date): BE 19971029, IT 19971029,

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9710W4	1526
CLAIMS B	(German)	9710W4	1300
CLAIMS B	(French)	9710W4	1870
SPEC B	(English)	9710W4	22634
Total word count - document A			0
Total word count - document B			27330
Total word count - documents A + B			27330

14/5/4 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00507101
ON-LINE TRAINING NEURAL NETWORK FOR PROCESS CONTROL
ON LINE TRAINIERENDES NEURONALES NETZWERK FUR PROZESSSTEUERUNG
RESEAU NEURONAL A APPRENTISSAGE EN DIRECT POUR COMMANDE DE PROCESSUS
PATENT ASSIGNEE:
E.I. DU PONT DE NEMOURS & CO. (INC.), (1065784), 1007 Market Street, Wilmington Delaware 19898, (US), (applicant designated states: BE;DE;FR;GB;IT;NL)
INVENTOR:
SKEIRIK, Richard, D., 11 Beech Hill Drive, Newark, DE 19711, (US)
LEGAL REPRESENTATIVE:
Beresford, Keith Denis Lewis et al (28273), BERESFORD & Co. 2-5 Warwick Court High Holborn, London WC1R 5DJ, (GB)
PATENT (CC, No, Kind, Date): EP 495046 A1 920722 (Basic)
EP 495046 B1 970423
WO 9202867 920220
APPLICATION (CC, No, Date): EP 91913862 910725; WO 91US5260 910725
PRIORITY (CC, No, Date): US 563092 900803
DESIGNATED STATES: BE; DE; FR; GB; IT; NL
INTERNATIONAL PATENT CLASS: G05B-013/02; **G06F-015/76**
NOTE:
No A-document published by EPO
LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:		920722	A1 Published application (A1with Search Report ;A2without Search Report)
Examination:		920722	A1 Date of filing of request for examination: 920501
Change:		921230	A1 Designated Contracting States (change)
Examination:		941214	A1 Date of despatch of first examination report: 941031
*Assignee:		960703	A1 Applicant (transfer of rights) (change): E.I. DU PONT DE NEMOURS & CO. (INC.) (1065784) 1007 Market Street Wilmington Delaware 19898 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
*Assignee:		960703	A1 Previous applicant in case of transfer of rights (change): E.I. DU PONT DE NEMOURS AND COMPANY (200580) 1007 Market Street Wilmington

			Delaware 19898 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
Grant:	970423	B1	Granted patent
*Assignee:	970716	B1	Proprietor of the patent (transfer of rights): E.I. DU PONT DE NEMOURS AND COMPANY (200580) 1007 Market Street Wilmington Delaware 19898 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
*Assignee:	970716	B1	Previous applicant in case of transfer of rights (change): E.I. DU PONT DE NEMOURS & CO. (INC.) (1065784) 1007 Market Street Wilmington Delaware 19898 (US) (applicant designated states: BE;DE;FR;GB;IT;NL)
Oppn None:	980415	B1	No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPAB97	760
CLAIMS B	(German)	EPAB97	690
CLAIMS B	(French)	EPAB97	876
SPEC B	(English)	EPAB97	22778
Total word count - document A			0
Total word count - document B			25104
Total word count - documents A + B			25104

14/5/5 (Item 5 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00507046
COMPUTER NEURAL NETWORK PROCESS MEASUREMENT AND CONTROL SYSTEM AND METHOD
NEURONALES RECHNERNETZWERK ZUM MESSEN UND STEUERN EINES PROZESSES UND VERFAHREN DAFUR
PROCEDE ET SYSTEME DE COMMANDE ET DE MESURE DE PROCESSUS PAR RESEAU NEURONAL INFORMATISE
PATENT ASSIGNEE:
E.I. DU PONT DE NEMOURS AND COMPANY, (200580), 1007 Market Street, Wilmington Delaware 19898, (US), (applicant designated states: BE;DE;FR;GB;IT;NL)
INVENTOR:
SKEIRIK, Richard, D., 11 Beech Hill Drive, Newark, DE 19711, (US)
LEGAL REPRESENTATIVE:
Beresford, Keith Denis Lewis et al (28273), BERESFORD & Co. 2-5 Warwick Court High Holborn, London WC1R 5DJ, (GB)
PATENT (CC, No, Kind, Date): EP 495044 A1 920722 (Basic)
EP 495044 B1 980923
WO 9202866 920220
APPLICATION (CC, No, Date): EP 91913785 910725; WO 91US5259 910725
PRIORITY (CC, No, Date): US 563095 900803
DESIGNATED STATES: BE; DE; FR; GB; IT; NL
INTERNATIONAL PATENT CLASS: G05B-013/02; **G06F-015/76**
NOTE:
No A-document published by EPO
LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	920722	A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	920722	A1	Date of filing of request for examination: 920501
Change:	921223	A1	Designated Contracting States (change)
Examination:	950125	A1	Date of despatch of first examination report: 941212
Grant:	980923	B1	Granted patent
Oppn None:	990915	B1	No opposition filed: 19990624

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9839	2242

CLAIMS B	(German)	9839	2002
CLAIMS B	(French)	9839	2714
SPEC B	(English)	9839	23085

Total word count - document A 0
Total word count - document B 30043
Total word count - documents A + B 30043

14/5/6 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00806392
TECHNOLOGY SHARING DURING ASSET MANAGEMENT AND ASSET TRACKING IN A NETWORK-BASED SUPPLY CHAIN ENVIRONMENT AND METHOD THEREOF
PARTAGE TECHNOLOGIQUE LORS DE LA GESTION ET DU SUIVI DU PARC INFORMATIQUE DANS UN ENVIRONNEMENT DU TYPE CHAINE D'APPROVISIONNEMENT RESEAUTEE, ET PROCEDE ASSOCIE
Patent Applicant/Assignee:
ACCENTURE LLP, 1661 Page Mill Road, Palo Alto, CA 94304, US, US (Residence), US (Nationality)
Inventor(s):
MIKURAK Michael G, 108 Englewood Blvd., Hamilton, NJ 08610, US,
Legal Representative:
HICKMAN Paul L (agent), Oppenheimer Wolff & Donnelly, LLP, 38th Floor, 2029 Century Park East, Los Angeles, CA 90067-3024, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200139086 A2 20010531 (WO 0139086)
Application: WO 2000US32310 20001122 (PCT/WO US0032310)
Priority Application: US 99444653 19991122; US 99447623 19991122
Designated States: AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G06F-017/60**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 156214

English Abstract

French Abstract

Legal Status (Type, Date, Text)

Publication	20010531	A2 Without international search report and to be republished upon receipt of that report.
Examination	20010927	Request for preliminary examination prior to end of 19th month from priority date
Declaration	20020613	Late publication under Article 17.2a
Republication	20020613	A2 With declaration under Article 17(2)(a); without abstract; title not checked by the International Searching Authority.

14/5/7 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00806383

COLLABORATIVE CAPACITY PLANNING AND REVERSE INVENTORY MANAGEMENT DURING DEMAND AND SUPPLY PLANNING IN A NETWORK-BASED SUPPLY CHAIN ENVIRONMENT AND METHOD THEREOF

PLANIFICATION EN COLLABORATION DES CAPACITES ET GESTION ANTICIPEE DES STOCKS LORS DE LA PLANIFICATION DE L'OFFRE ET DE LA DEMANDE DANS UN ENVIRONNEMENT DE CHAINE D'APPROVISIONNEMENT FONDEE SUR LE RESEAU ET PROCEDE ASSOCIE

Patent Applicant/Assignee:
ACCENTURE LLP, 1661 Page Mill Road, Palo Alto, CA 94304, US, US (Residence), US (Nationality)

Inventor(s):
MIKURAK Michael G, 108 Englewood Blvd., Hamilton, NJ 08610, US,

Legal Representative:
HICKMAN Paul L (agent), Oppenheimer Wolff & Donnelly, LLP, 1400 Page Mill Road, Palo Alto, CA 94304, US,

Patent and Priority Information (Country, Number, Date):
Patent: WO 200139029 A2 20010531 (WO 0139029)
Application: WO 2000US32309 20001122 (PCT/WO US0032309)
Priority Application: US 99444655 19991122; US 99444886 19991122

Designated States: AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-017/60**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 157840

English Abstract

French Abstract

Legal Status (Type, Date, Text)

Publication	20010531	A2 Without international search report and to be republished upon receipt of that report.
Examination	20011206	Request for preliminary examination prior to end of 19th month from priority date
Declaration	20030103	Late publication under Article 17.2a
Republication	20030103	A2 With declaration under Article 17(2)(a); without abstract; title not checked by the International Searching Authority.

14/5/8 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00803618 **Image available**
ELECTRONIC BOOK HAVING ELECTRONIC COMMERCE FEATURES
LIVRE ELECTRONIQUE COMPRENANT DES CARACTERISTIQUES DE COMMERCE ELECTRONIQUE
Patent Applicant/Assignee:
DISCOVERY COMMUNICATIONS INC, 7700 Wisconsin Avenue, Bethesda, MD 20814-3522, US, US (Residence), US (Nationality)
Inventor(s):
HENDRICKS John H, 8723 Persimmon Tree Road, Potomac, MD 20854, US,
ASMUSSEN Michael L, 2627 Meadow Hall Drive, Oak Hill, VA 20171, US,
MCCOSKEY John S, 4692 N. Lariat Drive, Castle Rock, CO 80104, US,
Legal Representative:
HARROP John K (et al) (agent), Dorsey & Whitney LLP, Suite 300 South,

1001 Pennsylvania Avenue N.W., Washington, DC 20004, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200137181 A2 20010525 (WO 0137181)
Application: WO 2000US31740 20001117 (PCT/WO US0031740)
Priority Application: US 99441892 19991117
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G06F-017/60**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 39919

English Abstract

French Abstract
L'invention concerne une visionneuse permettant d'afficher un livre electronique et de faire du commerce electronique. En meme temps qu'un utilisateur lit un livre electronique, il peut regarder des informations relatives a des produits et services, regarder un catalogue electronique en ligne et recevoir des echantillons de produits disponibles a l'achat. En entrant une demande d'achat, l'utilisateur peut acheter des produits ou services. Dans le cas d'un produit numerique, l'utilisateur peut telecharger le produit achete, directement dans la visionneuse, laquelle enregistre egalement des statistiques concernant les demandes d'achat et d'informations, de maniere a recommander des produits ou services associes, ou pour afficher a l'intention de l'utilisateur certains types de publicites.

Legal Status (Type, Date, Text)
Publication 20010525 A2 Without international search report and to be republished upon receipt of that report.
Examination 20010927 Request for preliminary examination prior to end of 19th month from priority date
Declaration 20011227 Late publication under Article 17.2a
Republication 20011227 A2 With declaration under Article 17(2)(a); without abstract; title not checked by the International Searching Authority.

14/5/9 (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00205702 **Image available**
MODULAR NEURAL NETWORK PROCESS CONTROL SYSTEM WITH NATURAL LANGUAGE CONFIGURATION
SYSTEME DE COMMANDE DE PROCESSUS PAR RESEAU NEURONAL MODULAIRE A CONFIGURATION EN LANGAGE NATUREL
Patent Applicant/Assignee:
E I DU PONT DE NEMOURS & CO (INC),
Inventor(s):
SKEIRIK Richard D,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9202896 A1 19920220
Application: WO 91US5258 19910725 (PCT/WO US9105258)
Priority Application: US 90328 19900803
Designated States: AT BE CA CH DE DK ES FR GB GR IT LU NL SE
Main International Patent Class: **G06F-015/80**

Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 24863
English Abstract
A modular neural network process control system and method with natural language configuration allows neural network functions to be easily configured and operated without programming expertise. Neural networks are provided as standard modules in a modular control system architecture. Each module has a storage area for holding module parameters and for holding a pointer to a neural network procedure. The procedure carries out the real time training and prediction functions of the neural network, and can be pointed to by multiple neural network modules. For neural network parameters, such as weight matrices, requiring large storage, the module storage also holds a pointer to a neural network parameter storage area. Partially defined neural network functions are presented to the user as a template, and the user completes the specification of the neural network functions by entering data into the template. Each type of partially defined function corresponds to a generic neural network procedure which is used to execute the module function. Or, neural network specifications can be accepted in a limited set of substantially natural language constructs, which are parsed into symbolic specifications. A neural network procedure is created by combining code fragments needed to implement the symbolic specifications.

French Abstract
Procede et systeme de commande de processus par reseau neuronal modulaire a configuration en langage natural qui permet aux fonctions du reseau neuronal d'etre facilement configurees et utilisees sans experience de la programmation. Les reseaux neuronaux sont constitues comme des modules standards dans une architecture de systeme de commande modulaire. Chaque module comprend une zone de stockage servant a contenir des parametres de modules et un pointeur pour une procedure de reseau neuronal. La procedure effectue l'apprentissage en temps reel et les fonctions de prediction du reseau neuronal, et elle peut etre designee par plusieurs modules de reseau neuronal. Pour les parametres de reseau neuronal necessitant de grandes zones de stockage, telles que les matrices de facteurs de ponderation, le stockage du modules contient egalement un pointeur pour une zone de stockage des parametres du reseau neuronal. Des fonctions partiellement definies du reseau neuronal sont presentees a l'utilisateur sous forme d'un modele et l'utilisateur acheve la specification des fonctions du reseau neuronal en introduisant des donnees dans le modele. Chaque type de fonction partiellement definie correspond a une procedure de reseau neuronal generique qui est utilisee pour executer la fonction du module. Dans un autre mode de fonctionnement, les specifications du reseau neuronal peuvent etre acceptees dans un ensemble limite de structures en langage naturel, qui sont analysees de maniere a produire des specifications symboliques. On cree une procedure de reseau neuronal en combinant les parties de code necessaires pour la mise en oeuvre des speficiations symboliques.

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Set     Items   Description
S1      64300   AI OR ARTIFICIAL()INTELLIGENCE OR SVM OR SUPPORT()VECTOR()-
             MACHIN? OR NEURAL()(NET? ? OR NETWORK?) OR NN OR NONLINEAR OR
             NON()LINEAR?
S2     269871   PREDICT? OR FORECAST?  OR ESTIMAT? OR MODEL? OR SIMULAT?
S3     297086   TRAIN?  OR LEARN? OR TEACH? OR TUTOR? OR INSTRUCT? OR EDUC-
             AT?
S4     126734   DATABASE? OR DATABANK? OR DATA()(BASE? OR BANK? OR FILE?) -
             OR DB OR DBMS OR DBS OR RDB OR RDBS OR RDBM OR OODB
S5     351751   HISTOR? OR PREVIOUS? OR EARLIER OR PAST OR OLD OR LOGFILE?
S6      27348   PROCESS()(DATA OR CONDITION OR CONTROL?) OR DATA()STREAM? -
             OR PRODUCT()PROPERTIES
S7    2651296   MODULE? OR SET? ? OR GROUP? ? OR SESSION? OR DAY? ? OR TIM-
             ESTAMP? OR (DAY OR DATE OR TIME)()STAMP?
S8        423   S1 AND S6
S9        124   S8 AND S7
S10        35   S3 AND S9
S11        25   S10 AND IC=G06F?
S12         5   S10 AND (S2 OR S5) AND S4
S13         6   S11 AND S4
S14         6   S12 OR S13
S15        18   S1(5N)S2(5N)S6
S16         2   S15 AND S5 AND S3
S17         8   S16 OR S14
S18         8   IDPAT (sorted in duplicate/non-duplicate order)
S19         8   IDPAT (primary/non-duplicate records only)
File 344:Chinese Patents Abs Aug 1985-2002/Nov
         (c) 2002 European Patent Office
File 347:JAPIO Oct 1976-2002/Sep(Updated 030102)
         (c) 2003 JPO & JAPIO
File 350:Derwent WPIX 1963-2002/UD,UM &UP=200301
         (c) 2003  Thomson Derwent
```

Foreign Patent Files

19/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013130869 **Image available**
WPI Acc No: 2000-302740/200026
Related WPI Acc No: 1997-559151; 2001-513567; 2002-461933; 2002-749229
XRPX Acc No: N00-226242
Steady state non-linear model training **method involves** training **non-linear model of plant with prefiltered input data obtained from identified dynamic model**
Patent Assignee: PAVILION TECHNOLOGIES INC (PAVI-N)
Inventor: GERULES M; HARTMAN E; JOHNSON W D; KEELER J D; LIANO K; PICHE S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6047221	A	20000404	US 96643464	A	19960506	200026 B
			US 97943489	A	19971003	

Priority Applications (No Type Date): US 97943489 A 19971003; US 96643464 A 19960506
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6047221	A		39	G05B-013/02	CIP of application US 96643464 CIP of patent US 5933345

Abstract (Basic): US 6047221 A
NOVELTY - A set of **historical** **training** data representing **historical** operation of plant, is generated. A linear dynamic model representing dynamics of the plant is identified. The **historical** input data is pre-filtered through the dynamic model to impress the dynamics of the plant as defined by the linear dynamic model. The non-linear model of the plant is **trained** with the pre-filtered input data.
DETAILED DESCRIPTION - The non-linear model comprises neural network having an input layer, output layer and a hidden layer for storing a **learned** representation of the plant and for mapping input layer to the output layer through **learned** representation comprising the steady state operation of plant.
USE - For **training** steady state **non - linear model** e.g. **process control models** .
ADVANTAGE - Highly effective and intelligent **process control models** are obtained using **neural networks** .
DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of **training** method utilizing system dynamics.
pp; 39 DwgNo 29/45
Title Terms: STEADY; STATE; NON; LINEAR; MODEL; **TRAINING** ; METHOD; **TRAINING** ; NON; LINEAR; MODEL; PLANT; INPUT; DATA; OBTAIN; IDENTIFY; DYNAMIC; MODEL
Derwent Class: T01; T06
International Patent Class (Main): G05B-013/02
File Segment: EPI

19/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012089282 **Image available**
WPI Acc No: 1998-506193/199843
XRPX Acc No: N98-394648
SIMIMD array processing system for arithmetic tasks, three- dimensional image matching and processing, data based **query processing - includes dedicated local memories that are accessed independently by data processor coupled to respective processing element, in both SIND and MIND modes**
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: DIEFFENDERFER J W; KOGGE P M; WILKINSON P A

Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5805915	A	19980908	US 92887718	A	19920522	199843 B
			US 94274127	A	19940712	
			US 94356039	A	19941214	
			US 95558763	A	19951115	
			US 97883806	A	19970627	

Priority Applications (No Type Date): US 92887718 A 19920522; US 94274127 A 19940712; US 94356039 A 19941214; US 95558763 A 19951115; US 97883806 A 19970627
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5805915	A		30	G06F-015/16	Cont of application US 92887718
					Cont of application US 94274127
					Cont of application US 94356039
					Cont of application US 95558763

Abstract (Basic): US 5805915 A

The system has a data processor provided with an array controller and a **set** of array processing elements each having dedicated local memory. An execution unit provided in the processing elements, processes the **instruction** in SIMIMD mode, based on control cycle of array controller. Each processing element has locally loaded address and operation registers. The execution of independent **instruction** sequences provided in multiple **data streams** stored in each processor element is performed based on SIND **instruction** stream.

A multiprocessor memory with a memory element, formed on a single substrate functioning as system node. The memory element has several memory cells. An interface arranged on the substrate interconnects and transmits control signals within the memory, to perform SIMD and MIMD functions. The dedicated local memories of each processing element are accessed independently by the data processor coupled to respective processor elements in both SIMD and MIND modes.

USE - For datern matching in **artificial intelligence** , network controlling in bridges, gate level **simulation** and ground rule violation checking in VLSI. For matrix multiplication. For microcontroller status distribution.

ADVANTAGE - Improves execution efficiency. Facilitates execution of **instructions** different from particular **set** , during error occurrence.

Dwg.9/12

Title Terms: ARRAY; PROCESS; SYSTEM; ARITHMETIC; TASK; THREE; DIMENSION; IMAGE; MATCH; PROCESS; DATA; BASED; QUERY; PROCESS; DEDICATE; LOCAL; MEMORY; ACCESS; INDEPENDENT; DATA; PROCESSOR; COUPLE; RESPECTIVE; PROCESS ; ELEMENT; MIND; MODE
Index Terms/Additional Words: SINGLE; **INSTRUCTION** ; MULTIPLE; DATA; MULTI; **INSTRUCTION** ; MULTIPLE; DATA
Derwent Class: T01
International Patent Class (Main): **G06F-015/16**
International Patent Class (Additional): **G06F-015/80**
File Segment: EPI

19/5/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010135448 **Image available**
WPI Acc No: 1995-036699/199505
XRPX Acc No: N95-028864
Automated control processing with learning **and stabilisation rules for drying coal - using** neural net module **and** training database , **receiving data about** learned **relationship of control parameter, and influencing factor for store as clusters to be filtered and retained on acceptable performance**
Patent Assignee: AMAX COAL WEST INC (AMMX)

Inventor: CORSO R
Number of Countries: 053 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9429773	A1	19941222	WO 94US6551	A	19940608	199505	B
AU 9471718	A	19950103	AU 9471718	A	19940608	199521	
US 5486998	A	19960123	US 9377244	A	19930614	199610	

Priority Applications (No Type Date): US 9377244 A 19930614
Cited Patents: US 4855674; US 4879643; US 4910684; US 5012430; US 5121467
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9429773	A1	E	116	G05B-013/02	

Designated States (National): AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB GE HU JP KG KP KR KZ LK LU LV MD MG MN MW NL NO NZ PL PT RO RU SD SE SI SK TJ TT UA UZ VN
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE

AU 9471718	A		G05B-013/02	Based on patent WO 9429773
US 5486998	A	45	G05B-013/02	

Abstract (Basic): WO 9429773 A

A system (200) conducts a continuous process and establishes within a **learning** unit (212) a **learned** relationship between data for a first **process control** parameter for the process (208). Data for the first process influencing factor is also **learnt** . The **learning** unit receives process **training** data during operation.

A data cluster is generated from the **learning** unit which includes control data and first applicability data related to the process influencing factor to determine when control data should be used. The data is entered into stored data clusters. The process is controlled by the data clusters. Post-filtering of the clusters is performed to retain the data when the process has acceptable performance.

ADVANTAGE - Provides simple cost effective way of supervising process and avoids experimentation by setting limits and gives frequent automatic adjustments.

Dwg.1/11

Title Terms: AUTOMATIC; CONTROL; PROCESS; **LEARNING** ; STABILISED; RULE; DRY ; COAL; NEURAL; NET; **MODULE** ; **TRAINING** ; **DATABASE** ; RECEIVE; DATA; RELATED; CONTROL; PARAMETER; INFLUENCE; FACTOR; STORAGE; CLUSTER; FILTER; RETAIN; ACCEPT; PERFORMANCE
Derwent Class: T01; T06; X25
International Patent Class (Main): G05B-013/02
International Patent Class (Additional): G05B-015/00; **G06F-015/18**
File Segment: EPI

19/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009763206 **Image available**
WPI Acc No: 1994-043057/199405
XRAM Acc No: C94-019258
XRPX Acc No: N94-034090

Pulp washing process - involves computerised system controlling wash water supply against pulp mat on moving filter surface.

Patent Assignee: BROWN & ROOT IND SERVICES INC (BROT)
Inventor: DEGROOT D L; RUDD J B
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5282131	A	19940125	US 92823313	A	19920121	199405	B

Priority Applications (No Type Date): US 92823313 A 19920121
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5282131	A		15	G06F-015/46	

Abstract (Basic): US 5282131 A

Countercurrent pulp washing process involves replacing water in pulp layer collected on moving filter surface or surfaces with rinse water for redn. of dissolved organic and inorganic material in the mat of pulp before its removal. The electronic **process control** system is responsive to computer **set** parameter values which include fresh rinse water supply rate.

The control system includes a **trainable** and computer- **trained neural network** (36) receiving inputs (A-Z), and measured process variables stored in a computer **database** are updated continuously. The neutral network (3) provides **predictable** variables including pulp mat density consistency, and soda loss for material still in the mat (28-32).

ADVANTAGE - Soda loss by carry-over in the washed pulp is effectively controlled.

Dwg.4/9

Title Terms: PULP; WASHING; PROCESS; COMPUTER; SYSTEM; CONTROL; WASHING; WATER; SUPPLY; PULP; MAT; MOVE; FILTER; SURFACE

Derwent Class: F09; T01; X25

International Patent Class (Main): **G06F-015/46**

International Patent Class (Additional): D21C-009/02

File Segment: CPI; EPI

19/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

008952983 **Image available**

WPI Acc No: 1992-080252/199210

XRPX Acc No: N92-060095

On-line training neural network **for** process control **- detects availability of new** training **data and constructs** training set **by retrieving corresp. input data**

Patent Assignee: DU PONT DE NEMOURS & CO E I (DUPO)

Inventor: SKEIRIK R D

Number of Countries: 016 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9202867	A	19920220				199210 B
EP 495046	A1	19920722	EP 91913862	A	19910725	199230
			WO 91US5260	A	19910725	
US 5212765	A	19930518	US 90563092	A	19900803	199321
US 5408586	A	19950418	US 90563092	A	19900803	199521
			US 9342500	A	19930402	
EP 495046	B1	19970423	EP 91913862	A	19910725	199721
			WO 91US5260	A	19910725	
DE 69125809	E	19970528	DE 625809	A	19910725	199727
			EP 91913862	A	19910725	
			WO 91US5260	A	19910725	
US 5640493	A	19970617	US 90563092	A	19900803	199730
			US 9342500	A	19930402	
			US 95422955	A	19950417	
US 5826249	A	19981020	US 90563092	A	19900803	199849
			US 9342500	A	19930402	
			US 95422955	A	19950417	
			US 97870659	A	19970606	

Priority Applications (No Type Date): US 90563092 A 19900803; US 9342500 A 19930402; US 95422955 A 19950417; US 97870659 A 19970606

Cited Patents: 2.Jnl.Ref; US 4884217; US 4907167; US 4910691; US 4920499; WO 8903092

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9202867	A		99		

Designated States (National): CA

Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE

EP 495046 A1 E 99 G05B-013/02 Based on patent WO 9202867
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE
US 5212765 A 59 G06F-015/18
US 5408586 A 59 G06F-015/18 Div ex application US 90563092
Div ex patent US 5212765
EP 495046 B1 E 67 G05B-013/02 Based on patent WO 9202867
Designated States (Regional): BE DE FR GB IT NL
DE 69125809 E G05B-013/02 Based on patent EP 495046
Based on patent WO 9202867
US 5640493 A 58 G06E-001/00 Div ex application US 90563092
Div ex application US 9342500
Div ex patent US 5212765
Div ex patent US 5408586
US 5826249 A G06E-001/00 Div ex application US 90563092
Div ex application US 9342500
Div ex application US 95422955
Div ex patent US 5212765
Div ex patent US 5408586
Div ex patent US 5640493

Abstract (Basic): WO 9202867 A

The computer **neural network process control** method **trains** a **neural network** using a **training set** based on a **set** of lab. data. The **neural network** detects the availability of new **training** data and constructs a **training set** by retrieving the corresp. input data.

A buffer of **training sets** is maintained for multiple **training** presentations. New **training sets** are added to the buffer replacing the oldest **training sets** . **Date stamped training sets** can be used to retrospectively **train** the **neural network** based on **past** data.

USE - **Process control** of manufacturing processes. (99pp Dwg.No. 1/34)

Title Terms: ON-LINE; **TRAINING** ; NEURAL; NETWORK; PROCESS; CONTROL; DETECT ; AVAILABLE; NEW; **TRAINING** ; DATA; CONSTRUCTION; **TRAINING** ; **SET** ; RETRIEVAL; CORRESPOND; INPUT; DATA

Derwent Class: T01; T06; X25

International Patent Class (Main): G05B-013/02; G06E-001/00; **G06F-015/18**

International Patent Class (Additional): G06E-003/00; **G06F-015/76** ; **G06F-016/18**

File Segment: EPI

19/5/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

008952980 **Image available**

WPI Acc No: 1992-080249/199210

XRPX Acc No: N92-060092

On-line computer neural network process controller - predicts **output data sent to controller using data pointers to specify input, output and** training **input**

Patent Assignee: DU PONT DE NEMOURS & CO E I (DUPO)

Inventor: SKEIRIK R D

Number of Countries: 016 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9202864	A	19920220				199210	B
EP 495085	A1	19920722	EP 91915833	A	19910725	199230	
			WO 91US5253	A	19910725		
US 5167009	A	19921124	US 90562388	A	19900803	199250	
US 5224203	A	19930629	US 90562388	A	19900803	199327	
			US 92916684	A	19920722		
EP 495085	B1	19971119	EP 91915833	A	19910725	199751	
			WO 91US5253	A	19910725		
DE 69128237	E	19980102	DE 628237	A	19910725	199806	
			EP 91915833	A	19910725		

Priority Applications (No Type Date): US 90562388 A 19900803; US 92916684 A 19920722
Cited Patents: 2.Jnl.Ref; US 4907167; US 4910691; US 4920499; WO 8903092
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9202864	A		138		
Designated States (National): CA					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE					
EP 495085	A1	E	138	G05B-013/02	Based on patent WO 9202864
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
US 5167009	A		59	G06F-015/18	
US 5224203	A		59	G06F-015/18	Div ex application US 90562388
					Div ex patent US 5167009
EP 495085	B1	E	13	G05B-013/02	Based on patent WO 9202864
Designated States (Regional): BE DE FR GB IT NL					
DE 69128237	E			G05B-013/02	Based on patent EP 495085
					Based on patent WO 9202864

Abstract (Basic): WO 9202864 A
The technique includes configuring the network by specifying at least one interval. Data pointers are used to specify at least one input, one put and at least one **training** input. Either on line or off line **training** of the **neural network** produces a **trained neural network** . Second output data is **predicted** will the **trained neural network** using second input data at least one specified interval. The second output data is retrieved for controlling the process.
USE - Manufacturing **process control** for e.g. cake making.
(138pp Dwg.No.13/34)
Title Terms: LINE; COMPUTER; NEURAL; NETWORK; PROCESS; CONTROL; **PREDICT** ; OUTPUT; DATA; SEND; CONTROL; DATA; POINT; SPECIFIED; INPUT; OUTPUT; **TRAINING** ; INPUT
Derwent Class: T01; T06; X25
International Patent Class (Main): G05B-013/02; **G06F-015/18**
International Patent Class (Additional): **G06F-015/76**
File Segment: EPI

19/5/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008734176 **Image available**
WPI Acc No: 1991-238192/199132
XRPX Acc No: N91-181644
Process control **using** neural network **- predicts values of indirectly controlled process variables to change directly values and optimise system**
Patent Assignee: AUTOMATION TECNHNOLOGY INC (AUTO-N); AUTOMATION TECHNOLO (AUTO-N); AUTOMATION TECHN IN (AUTO-N)
Inventor: GRAYSON S K; RUDD J B; RUDD J
Number of Countries: 023 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9110961	A	19910725				199132	B
AU 9172498	A	19910805				199145	
US 5111531	A	19920505	US 90462503	A	19900108	199221	
EP 510112	A1	19921028	EP 91904312	A	19910108	199244	
			WO 91US141	A	19910108		
EP 510112	A4	19940309	EP 91904312	A	19910000	199529	

Priority Applications (No Type Date): US 90462503 A 19900108
Cited Patents: 2.Jnl.Ref; US 4858147; US 4941122
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9110961	A				
Designated States (National): AU BR CA FI JP KR NO SU					

Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE
US 5111531 A 22
EP 510112 A1 E 36 G06F-015/18 Based on patent WO 9110961
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE

Abstract (Basic): WO 9110961 A

The **trainable neural network** has input and output neurons. The neurons are **trained** to provide a **predicted** value for indirectly controlled variables at the output neuron corresponding to the input values of the **neural network** . The values of directly controlled process variables are continually measured and stored in a computer **database** . These values are used to provide input values to the **neural network** and **set** point values derived from them at the output neurons.

After **training** of the network, at least one **set** point value is changed to cause the **predicted** value of the indirectly controlled variable to approach a desired value.

USE/ADVANTAGE - In **trainable neural networks** to dynamically monitor and adjust manufacturing process to optimum operation. Does not require mathematical relationships between the process variables to be determined. Uses existing hardward and software. (36pp Dwg.No.1/1)

Title Terms: PROCESS; CONTROL; NEURAL; NETWORK; **PREDICT** ; VALUE; INDIRECT; CONTROL; PROCESS; VARIABLE; CHANGE; VALUE; OPTIMUM; SYSTEM
Derwent Class: T01
International Patent Class (Main): **G06F-015/18**
International Patent Class (Additional): G05B-013/00
File Segment: EPI

19/5/8 (Item 8 from file: 347)
DIALOG(R)File 347:JAPIO

05877042 **Image available**
WASTE GAS PROPERTY ESTIMATION SYSTEM AND OPERATION **TRAINING** SYSTEM

PUB. NO.: 10-160142 [JP 10160142 A]
PUBLISHED: June 19, 1998 (19980619)
INVENTOR(s): TAKAHATA YOSHIAKI
MORIHARA TAKAO
APPLICANT(s): KUBOTA CORP [000105] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 08-314535 [JP 96314535]
FILED: November 26, 1996 (19961126)
INTL CLASS: [6] F23G-005/44; F23G-005/50; G05B-013/02; G06F-015/18
JAPIO CLASS: 24.2 (CHEMICAL ENGINEERING -- Heating & Cooling); 22.3 (MACHINERY -- Control & Regulation); 45.4 (INFORMATION PROCESSING -- Computer Applications)
JAPIO KEYWORD: R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessers)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a waste gas property estimation system and an operation **training** system capable of estimating concentration of carbon monoxide or nitrogen oxide in waste gas of a refuse burning plant.

SOLUTION: A waste gas property estimation system is adapted such that waste gas component estimation means 1 is constructed with a neural network, and there are **previously** inputted control operation data, process data, and actually measured values of concentrations of nitrogen oxide and carbon monoxide in waste gas corresponding to both data which are **learned** by the **neural network** , and the control operation data and the **process data** are inputted into the **neural network** after **learning** to **estimate** and output the concentration of the nitrogen oxide or carbon monoxide in the waste gas. An operation **training** system is adapted using a controller 4 for controlling a simulation plant, first estimation means 2 as the simulation plant, and waste gas component estimation means 1 as second estimation means 3 for estimating the waste gas component from the

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Set     Items   Description
S1      64300   AI OR ARTIFICIAL()INTELLIGENCE OR SVM OR SUPPORT()VECTOR()-
             MACHIN? OR NEURAL()(NET? ? OR NETWORK?) OR NN OR NONLINEAR OR
             NON()LINEAR?
S2     269871   PREDICT? OR FORECAST?  OR ESTIMAT? OR MODEL? OR SIMULAT?
S3     297086   TRAIN?  OR LEARN? OR TEACH? OR TUTOR? OR INSTRUCT? OR EDUC-
             AT?
S4     126734   DATABASE? OR DATABANK? OR DATA()(BASE? OR BANK? OR FILE?) -
             OR DB OR DBMS OR DBS OR RDB OR RDBS OR RDBM OR OODB
S5     351751   HISTOR? OR PREVIOUS? OR EARLIER OR PAST OR OLD OR LOGFILE?
S6      27348   PROCESS()(DATA OR CONDITION OR CONTROL?) OR DATA()STREAM? -
             OR PRODUCT()PROPERTIES
S7    2651296   MODULE? OR SET? ? OR GROUP? ? OR SESSION? OR DAY? ? OR TIM-
             ESTAMP? OR (DAY OR DATE OR TIME)()STAMP?
S8         19   S1 AND S2 AND S3 AND S4 AND S5
S9         74   S1 AND (S2 OR S3) AND S4 AND S5
S10        37   S9 AND (S6 OR S7)
S11     12656   S1 AND S7
S12      2586   S11 AND (S2 OR S3)
S13        66   S12 AND S6
S14       110   S8 OR S10 OR S13
S15        12   S14 AND IC=G06F-017?
S16        11   S14 AND IC=G06F-019?
S17        18   S15 OR S16
S18        18   IDPAT (sorted in duplicate/non-duplicate order)
S19        16   IDPAT (primary/non-duplicate records only)
File 344:Chinese Patents Abs Aug 1985-2002/Nov
         (c) 2002 European Patent Office
File 347:JAPIO Oct 1976-2002/Sep(Updated 030102)
         (c) 2003 JPO & JAPIO
File 350:Derwent WPIX 1963-2002/UD,UM &UP=200301
         (c) 2003  Thomson Derwent
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19/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014835124
WPI Acc No: 2002-655830/200270
XRAM Acc No: C02-184114
XRPX Acc No: N02-518307
Trainable **system for** predicting **biomolecular interactions, has system for** predicting **interactions between members of** set **of biomolecules with unknown interactions by analogy to biomolecules with known interactions**
Patent Assignee: BOCK J R (BOCK-I); GOUGH D A (GOUG-I)
Inventor: BOCK J R; GOUGH D A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020090631	A1	20020711	US 2000248258	A	20001114	200270	B
			US 2001993272	A	20011114		

Priority Applications (No Type Date): US 2000248258 P 20001114; US 2001993272 A 20011114
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020090631	A1		10	C12Q-001/68	Provisional application US 2000248258

Abstract (Basic): US 20020090631 A1

NOVELTY - A **trainable** system (I) comprising a **training set** with primary structure of biomolecules with known interactions into a **trainable** system, a **set** of biomolecules with unknown interactions into the **trainable** system and a system for **predicting** interactions between members of the **set** of biomolecules with unknown interactions by analogy to the biomolecules in the **training set** , is new.

USE - (I) is useful for **predicting** biomolecular interactions which involves inputting a **training set** comprising primary structure of biomolecules with known interactions into a (I), inputting a **set** of biomolecules with unknown interactions into (I), and **predicting** interactions between members of the **set** of biomolecules with unknown interactions by analogy to the biomolecules in the **training set** using (I). Preferably the method is useful for **predicting** homotypic or heterotypic biomolecular interactions, e.g. interactions between protein, nucleic acid or bioactive agent. (I) is also useful for **predicting** whole proteome interactions which involves, inputting a **training set** comprising all known protein-protein interactions from a single organism into (I), inputting a proteome of an organism with unknown interactions into (I), and **predicting** interactions between members of the **set** of proteins with unknown interactions using (I) (claimed). The **trainable** system is useful for **prediction** of interactions, mutual bindings or associations between specific homogeneous pairings of biomolecules such as protein-protein, DNA-DNA, and heterogeneous pairings such as protein-DNA, protein-RNA, and DNA-RNA, etc. The system can be applied to larger scale studies of protein-protein interactions in a proteome wide scale. The **training** system is useful for whole-proteome interaction mapping, for **predicting** presence of epitopes of interest, including functional domains and binding sites of proteins, and antigenic determinants, to **predict** binding of nucleic acids with proteins, **predicting** biochemical, signal transduction and gene regulatory circuit pathways in the cell, using information obtained from the use of various modes of **trainable** system to **predict** small molecule-protein, protein-protein and protein-nucleic acid interaction pairs, and for cell-map proteomics.

ADVANTAGE - (I) makes a statistical decision as to whether or not a new pair of proteins will interact, based on its **training** from **previous** data. The system achieves a high degree of precision relative to **previous** methods in making these decisions, enabling higher throughput screening of potential candidate proteins for different applications.

pp; 10 DwgNo 0/1
Title Terms: SYSTEM; **PREDICT** ; INTERACT; SYSTEM; **PREDICT** ; INTERACT; MEMBER; **SET** ; UNKNOWN; INTERACT; ANALOGOUS; INTERACT
Derwent Class: B04; D16; S03; T01
International Patent Class (Main): C12Q-001/68
International Patent Class (Additional): G01N-033/48; G01N-033/50; G01N-033/53; **G06F-019/00**
File Segment: CPI; EPI

19/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014779025
WPI Acc No: 2002-599731/200264
XRAM Acc No: C02-169552
XRPX Acc No: N02-475461

Metabolic profiling for identifying a metabolic state of an organism, e.g. gene alterations comprises analyzing recognition system data of observed metabolites from organisms by spectroscopic or chromatographic techniques

Patent Assignee: BASF AG (BADI)
Inventor: ARANIBAR N; OTT K; STOCKTON G W
Number of Countries: 100 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200257989	A2	20020725	WO 2002EP367	A	20020116	200264	B

Priority Applications (No Type Date): US 2001262531 P 20010118
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200257989	A2	E	100	G06F-019/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

Abstract (Basic): WO 200257989 A2

NOVELTY - Metabolic profiling (M1) comprising analyzing, in an automated pattern, recognition system data of a compilation of observed metabolites obtained from a sample from organisms grown under controlled conditions by a spectroscopic or chromatographic technique in comparison to data obtained from other known samples by the same techniques to determine a comparable metabolic state, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) determining the metabolic mode of action of a compound, comprising (M1), where the subject biological sample is from an organism treated with the compound and the subject metabolic state indicates the metabolic mode of action of the compound;

(2) determining the metabolic state response in plants to stimuli, comprising (M1), where the subject biological sample is from an organism exposed to the stimuli, and the subject metabolic state indicates the metabolic stress response to the stimuli; and

(3) a **database** of metabolic responses comprising data generated from (M1).

USE - (M1) is useful for identifying gene alterations, genetic alterations or modification, and in identifying and classifying variations of genotype, phenotype, developmental stage, or other factors that are reflected in the metabolic composition of the organism. (M1) is useful in determining the metabolic mode of action of a compound or the metabolic state response in plants to stimuli (claimed). The spectroscopic techniques are useful in diagnosing specific diseases or detecting abnormal samples in a population of a **group** of samples, tissues, microbes or polymers. Nuclear Magnetic

Resonance combined with pattern recognition is useful in assaying human diseases, e.g. brain cancer, and in analyzing and **predicting** mammalian toxicity.

ADVANTAGE - (M1) classifies biochemical pathway activity by monitoring the overall composition of the natural metabolite levels as compared to the previous approaches, which focus specific toxicological parameters like target organ specificity from analysis of specific toxin metabolites. Furthermore, the sample and data analysis requirements are largely divergent in this method, e.g. tissue samples or extracts of tissue samples as compared to body fluids used in the previous approaches.

pp; 100 DwgNo 0/8

Title Terms: METABOLISM; PROFILE; IDENTIFY; METABOLISM; STATE; ORGANISM; GENE; ALTER; COMPRISE; RECOGNISE; SYSTEM; DATA; OBSERVE; METABOLITE; ORGANISM; SPECTROSCOPE; CHROMATOGRAPHY; TECHNIQUE

Derwent Class: B04; C06; D16; S03; S05; T01

International Patent Class (Main): **G06F-019/00**

File Segment: CPI; EPI

19/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

014747617 **Image available**

WPI Acc No: 2002-568321/200261

XRPX Acc No: N02-449926

Method for processing client requests to server, comprises establishment of request history **classed by** groups **of clients and correspondence between site pages and three dimensional page transitions**

Patent Assignee: NUMSIGHT SA (NUMS-N)

Inventor: BENABDESLEM K; BENNANI Y; JANVIER E

Number of Countries: 100 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2819916	A1	20020726	FR 20011013	A	20010125	200261	B
WO 200259781	A2	20020801	WO 2002FR303	A	20020125	200261	

Priority Applications (No Type Date): FR 20011013 A 20010125

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2819916	A1		21	G06F-019/00	
WO 200259781	A2	F		G06F-017/30	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

Abstract (Basic): FR 2819916 A1

NOVELTY - Internet requests to a server (3) are intercepted and sent to a JAVA servlet (6) which acts as an interface to the invention. Non significant requests are eliminated and a list of parameters (7) enable a transformer (8) to extract pertinent information which is sent to an analyzer (9). A **session** profile is established with the aid of a **neural network** (10) and passed to a **database** (11,12) which advises the processor (4) how to adapt to the customer's needs

USE - To improve sales on Internet commercial sites

ADVANTAGE - The method combines statistical and **modelling** approaches and operates in real time

DESCRIPTION OF DRAWING(S) - The drawing shows the extraction and processing of request data.(The drawing includes non-English language text)

Internet requests to a server (3)

Processor (4)

JAVA servlet (6)

Parameters (7)
Transformer (8)
analyzer (9)
Neuron network (10)
Database (11,12)
pp; 21 DwgNo 1/11
Title Terms: METHOD; PROCESS; CLIENT; REQUEST; SERVE; COMPRISE; ESTABLISH; REQUEST; **HISTORY** ; **GROUP** ; CLIENT; CORRESPOND; SITE; PAGE; THREE; DIMENSION; PAGE; TRANSITION
Derwent Class: T01
International Patent Class (Main): **G06F-017/30** ; **G06F-019/00**
File Segment: EPI

19/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014699165 **Image available**
WPI Acc No: 2002-519869/200255
XRPX Acc No: N02-411464
Vehicle dynamics prediction **system for** train , predicts **vehicle velocity during predetermined period by processing vehicle control setting data and operational parameter data through** neural network models
Patent Assignee: QUEENSLAND RAIL (QUEE-N); UNIV CENT QUEENSLAND (UYQU-N)
Inventor: COLE C R
Number of Countries: 100 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200249900	A1	20020627	WO 2001AU1645	A	20011220	200255	B
AU 200215698	A	20020701	AU 200215698	A	20011220	200264	

Priority Applications (No Type Date): AU 20002219 A 20001220
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200249900	A1	E	37	B61B-013/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

AU 200215698	A		B61B-013/00	Based on patent WO 200249900

Abstract (Basic): WO 200249900 A1
NOVELTY - A processor calculates the future conditions of a vehicle based on the current vehicle position data related to selected route utilizing position data obtained from a route topographical **database** . The vehicle velocity is **predicted** during the predetermined period by processing the vehicle control setting data and operational parameter data through **neural network models** .
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for vehicle dynamics **prediction** method.
USE - For **predicting** velocity of vehicle such as **train** for a future time period and longitudinal forces present in the vehicle for giving advance warning to **train** driver.
ADVANTAGE - Uses both **historical** and present vehicle control settings together with future vehicle control settings, to **predict** future vehicle dynamics. Provides virtual current output for any **simulated** parameter in the **train** , without the need to directly measure that parameter.
DESCRIPTION OF DRAWING(S) - The figure shows a version of the artificial **neural network model** .
pp; 37 DwgNo 8/8
Title Terms: VEHICLE; DYNAMIC; **PREDICT** ; SYSTEM; **TRAIN** ; **PREDICT** ; VEHICLE; VELOCITY; PREDETERMINED; PERIOD; PROCESS; VEHICLE; CONTROL; **SET**

; DATA; OPERATE; PARAMETER; DATA; THROUGH; NEURAL; NETWORK; **MODEL**
Derwent Class: Q21; T01; X23
International Patent Class (Main): B61B-013/00
International Patent Class (Additional): **G06F-019/00**
File Segment: EPI; EngPI

19/5/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014659064
WPI Acc No: 2002-479768/200251
XRAM Acc No: C02-136575
XRPX Acc No: N02-378846
Representing a change in cellular activity, by measuring cellular activity profile at time points during cellular process, assigning cell state vector to each of the profiles, and generating a dynamic signature
Patent Assignee: CHILDRENS MEDICAL CENT (CHIL-N); HUANG S (HUAN-I); INGBER D E (INGB-I)
Inventor: HUANG S; INGBER D E
Number of Countries: 097 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200237102	A2	20020510	WO 2001US43041	A	20011019	200251	B
AU 200219789	A	20020515	AU 200219789	A	20011019	200258	
US 20020155422	A1	20021024	US 2000242009	A	20001020	200273	
			US 2001985963	A	20011019		

Priority Applications (No Type Date): US 2000242009 P 20001020; US 2001985963 A 20011019
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200237102	A2	E	65	G01N-033/50	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200219789	A		G01N-033/50	Based on patent WO 200237102
US 20020155422	A1		G06F-017/60	Provisional application US 2000242009

Abstract (Basic): WO 200237102 A2

NOVELTY - Representing (M1) a change in cellular activity, involves measuring a cellular activity profile at each number of time points during a cellular process, assigning a cell state vector to each of the cellular activity profiles, and generating from the cell-state vectors, a dynamic signature representing a trajectory in state-space of the cellular process.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a method (M2) of **predicting** the behavior of a cellular material, comprising carrying out M1 and comparing the obtained dynamic signature to **predict** cell behavior based on a reference cellular process represented by the reference dynamic signature;

(2) a method (M3) for identifying important molecular components of a cellular process, comprising:

(a) measuring a cellular activity profile, where each of the cellular activity profiles comprises a value for each of a number of molecular components;

(b) assigning a first and second cell state vector to each of the cellular activity profiles, where each of the first and second cell-state vectors is derived from values for the molecular components at a corresponding time point, and

(c) comparing a second dynamic signature generated from the second cell-state vectors with a first dynamic signature generated from the first cell-state vectors, thus to determine whether the subset of

molecular components contributes to the first dynamic signature representative of the cellular process;

(3) a method (M4) for assaying a candidate drug, comprising comparing a reference dynamic signature generated in the absence of drug candidate with a test dynamic signature generated in the presence of a drug candidate, where each of the dynamic signatures is generated based on a predetermined **set** of molecular components, thus to determine whether the drug candidate alters a cellular process; and

(4) a method (M5) for monitoring a cellular process, by comparing a first dynamic signature to a reference dynamic signature, where each of the dynamic signatures is generated based on a predetermined **set** of molecular components, thus to determine the status of a cellular process including toxicity, disease progression and therapeutic response.

USE - M1 is useful for **predicting** the behavior of a cellular material, identifying important molecular components of a cellular process, assaying a candidate drug, and monitoring a cellular process (claimed).

pp; 65 DwgNo 0/12

Title Terms: REPRESENT; CHANGE; CELLULAR; ACTIVE; MEASURE; CELLULAR; ACTIVE ; PROFILE; TIME; POINT; CELLULAR; PROCESS; ASSIGN; CELL; STATE; VECTOR; PROFILE; GENERATE; DYNAMIC; SIGNATURE

Derwent Class: B04; D16; S03

International Patent Class (Main): G01N-033/50; **G06F-017/60**

International Patent Class (Additional): C12Q-001/00; C12Q-001/68; G01N-033/48; G01N-033/68; **G06F-019/00**

File Segment: CPI; EPI

19/5/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

014172971 **Image available**

WPI Acc No: 2001-657199/200175

XRPX Acc No: N01-489861

Neural network module **used in e.g. adaptive speech recognition in a noisy environment, adaptive spoken language evolving systems has adaptive component that aggregates selected two or more rule nodes**

Patent Assignee: UNIV OTAGO (UYOT-N)

Inventor: KASABOV N K

Number of Countries: 094 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200178003	A1	20011018	WO 2001NZ59	A	20010410	200175	B
AU 200152793	A	20011023	AU 200152793	A	20010410	200213	
NZ 503882	A	20021122	NZ 503882	A	20000410	200301	

Priority Applications (No Type Date): NZ 503882 A 20000410

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200178003	A1	E	54	G06N-003/02	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200152793	A	G06N-003/02	Based on patent WO 200178003
NZ 503882	A	G06T-001/40	Div in patent NZ 521739

Abstract (Basic): WO 200178003 A1

NOVELTY - An input layer (40) includes one or more input nodes arranged to receive input data. A rule base layer (48) comprises one or more rule nodes. An output layer (56) comprises one or more output nodes. An adaptive component (52) selects two or more rule nodes in the rule base layer based on the input data.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

(a) an adaptive **learning** system
(b) a method of implementing a **neural network module**
(c) a **neural network** computer program
(d) an adaptive **learning** computer program embodied on a computer readable medium.

USE - In an adaptive **learning** system with a **neural network module** forming part of an adaptive **learning** system. May be used in adaptive speech recognition in a noisy environment, adaptive spoken language evolving systems, adaptive **process control** , adaptive robot control, adaptive knowledge based systems for **learning** genetic information, adaptive agents on the Internet, adaptive systems for on-line decision making on financial and economic data, adaptive automatic vehicle driving systems that **learn** to navigate in a new environment (cars, helicopters, etc), and classifying bio-information data.

ADVANTAGE - Improves the classification results. The system is evolved through one pass **training** on each consecutive example and testing it on the next one. During the process of on-line evolving the system **learns** each example and then attempts to **predict** the class of the next one. Here the system continually evolves with new examples accommodated, as they become available.

DESCRIPTION OF DRAWING(S) - The drawing is a schematic view of a **neural network module** of the invention.
input layer (40)
rule base layer (48)
adaptive component (52)
output layer (56)
pp; 54 DwgNo 3/28

Title Terms: NEURAL; NETWORK; **MODULE** ; ADAPT; SPEECH; RECOGNISE; NOISE; ENVIRONMENT; ADAPT; SPEAKER; LANGUAGE; EVOLVE; SYSTEM; ADAPT; COMPONENT; AGGREGATE; SELECT; TWO; MORE; RULE; NODE
Derwent Class: T01; T02; T06
International Patent Class (Main): G06N-003/02; G06T-001/40
International Patent Class (Additional): G06F-015/18; G06F-015/82; **G06F-017/40** ; **G06F-019/00**
File Segment: EPI

19/5/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014047212
WPI Acc No: 2001-531425/200159
XRAM Acc No: C01-158482
XRPX Acc No: N01-394615
Prediction **of flammability limits of complex mixture of reactive fuels and inert species, includes** training **data from critical variables of each structural** group **to produce** neural network model
Patent Assignee: PRAXAIR TECHNOLOGY INC (PRAX-N); PRAXAIR TECHNOLOGY CO LTD (PRAX-N)
Inventor: AKHRAS A W; WAGNER M L
Number of Countries: 032 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1118855	A2	20010725	EP 2001100913	A	20010116	200159	B
BR 200100085	A	20010828	BR 200185	A	20010116	200159	
CA 2331262	A1	20010718	CA 2331262	A	20010117	200159	
JP 2001256420	A	20010921	JP 20017446	A	20010116	200170	
CN 1315659	A	20011003	CN 2001101681	A	20010116	200205	
KR 2001085291	A	20010907	KR 20012354	A	20010116	200218	
US 6442536	B1	20020827	US 2000487385	A	20000118	200259	

Priority Applications (No Type Date): US 2000487385 A 20000118
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1118855	A2	E	9	G01N-025/50	

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

BR 200100085 A G01N-033/22
CA 2331262 A1 E G06N-003/02
JP 2001256420 A 7 G06F-019/00
CN 1315659 A G01N-033/22
KR 2001085291 A G06G-007/48
US 6442536 B1 G06F-015/18

Abstract (Basic): EP 1118855 A2
NOVELTY - Flammability limits of a complex mixture are **predicted** by **training** data from critical variables, i.e. compositional and thermochemical data, of each structural **group** to produce a **neural network model** ; testing the **trained** data; and validating the **trained** and tested data to accurately **predict** the flammability limit of an analogous complex mixture having similar structural **groups** .
USE - For **predicting** flammability limits of a complex mixture of reactive fuels and inert species (claimed).
ADVANTAGE - The method is more robust than any other technique in the prior art. The **neural network** works well in the categorization, **modeling** and classification of data for which there is no known mathematical function or fundamental understanding of the relationship between the inputs and the outputs. **Neural network** applications are abundant and diverse and have included investment analysis, signature analysis, **process control** , and marketing.
pp; 9 DwgNo 0/4
Title Terms: **PREDICT** ; FLAMMABLE; LIMIT; COMPLEX; MIXTURE; REACT; FUEL; INERT; SPECIES; **TRAINING** ; DATA; CRITICAL; VARIABLE; STRUCTURE; **GROUP** ; PRODUCE; NEURAL; NETWORK; **MODEL**
Derwent Class: H05; J04; S03; T01
International Patent Class (Main): G01N-025/50; G01N-033/22; G06F-015/18; **G06F-019/00** ; G06G-007/48; G06N-003/02
International Patent Class (Additional): G06G-007/00
File Segment: CPI; EPI

19/5/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013215171
WPI Acc No: 2000-387045/200033
XRAM Acc No: C00-117355
XRPX Acc No: N00-289781
New basis set **of pharmacophores provided in a machine-readable format, where each pharmacophore comprises three spatially separated pharmacophoric centers, useful in screening compounds for designing primary or target compound libraries**
Patent Assignee: GLAXO GROUP LTD (GLAX); MCGREGOR M J (MCGR-I); MUSKAL S M (MUSK-I)
Inventor: MCGREGOR M J; MUSKAL S M
Number of Countries: 090 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200025106	A2	20000504	WO 99US25460	A	19991027	200033	B
AU 200013317	A	20000515	AU 200013317	A	19991027	200039	
EP 1153358	A2	20011114	EP 99956785	A	19991027	200175	
			WO 99US25460	A	19991027		
US 20020052694	A1	20020502	US 98106007	A	19981028	200234	
			US 99145611	A	19990726		
			US 99411751	A	19991004		
			US 99416550	A	19991012		
			US 2001877797	A	20010607		
US 20020077754	A1	20020620	US 98106007	A	19981028	200244	
			US 99145611	A	19990726		
			US 99416550	A	19991012		
JP 2002530727	W	20020917	WO 99US25460	A	19991027	200276	
			JP 2000578631	A	19991027		

Priority Applications (No Type Date): US 99416550 A 19991012; US 98106007 P

19981028; US 99145611 P 19990726; US 99411751 A 19991004; US 2001877797 A 20010607

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200025106	A2	E	102	G01N-000/00	
Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW				
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
AU 200013317	A			G01N-000/00	Based on patent WO 200025106
EP 1153358	A2	E		G06F-017/50	Based on patent WO 200025106
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
US 20020052694	A1			G06F-019/00	Provisional application US 98106007 Provisional application US 99145611 Div ex application US 99411751 Div ex application US 99416550
US 20020077754	A1			G01N-033/48	Provisional application US 98106007 Provisional application US 99145611
JP 2002530727	W		134	G06F-017/30	Based on patent WO 200025106

Abstract (Basic): WO 200025106 A2

NOVELTY - A basis **set** (B1) of pharmacophores provided in a machine-readable format, where each pharmacophore comprises at least three spatially separated pharmacophoric centers, is new.

DETAILED DESCRIPTION - A basis **set** (B1) of pharmacophores provided in a machine-readable format, where each pharmacophore comprises at least three spatially separated pharmacophoric centers, is new. Each pharmacophoric center includes:

(i) a spatial position; and

(ii) a defined pharmacophore type specifying a chemical property, where the pharmacophore types of the basis **set** include at least a hydrogen bond acceptor, a hydrogen bond donor, a center with a negative charge, a center with a positive charge, a hydrophobic center, an aromatic center, and a default category that does not fall into any other specified pharmacophore type.

INDEPENDENT CLAIMS are also included for the following:

(1) A pharmacophore fingerprint of a compound, the fingerprint comprising a compacted bit sequence in which individual bits correspond to unique pharmacophores from B1;

(2) A method (M1) of creating a pharmacophore fingerprint of a compound, comprising:

(a) receiving a three-dimensional representation of the compound;

(b) assigning pharmacophoric types to positions in the three-dimensional representation of the compound, the pharmacophoric types specifying distinct chemical properties;

(c) choosing a current conformation of the compound;

(d) identifying matches between a current conformation of the compound and a basis **set** of pharmacophores, each pharmacophore in the basis **set** having at least three spatially separated pharmacophoric centers with associated pharmacophoric types;

(e) repeating (c) and (d) at least once so that at least two conformations are considered; and

(f) creating the pharmacophore fingerprint from matches of the compound to members of the basis **set** ;

(3) A method (M2) of developing a structure-activity relationship for chemical compounds, the method comprising:

(a) receiving pharmacophore fingerprints of compounds in a **training set** , each fingerprint specifying a three-dimensional superposition of pharmacophores;

(b) receiving activity values for the compounds of the **training set** ; and

(c) developing the structure-activity relationship with a function that relates the fingerprints to the activity values;

(4) A computer program product comprising a machine readable medium on which is stored program code for creating a pharmacophore fingerprint of a compound, the program code specifying the operations of M1;

(5) A computer program product comprising a machine readable medium on which is stored program code for developing a structure-activity relationship for chemical compounds, the program code specifying the operations of M2;

(6) A method (M3) of identifying one or more regions of a defined activity in a chemical space, comprising:

(a) receiving a reference **set** of compounds having members associated with the defined activity;

(b) providing pharmacophore fingerprints of the members of the reference **set** , each fingerprint specifying a three dimensional superposition of pharmacophores from a basis **set** ; and

(c) associating the pharmacophore fingerprints of the members of the reference **set** with the defined activity so that at least one region of the chemical space associated with the defined activity is identified;

(7) A method (M4) for generating a library of compounds, comprising:

(a) identifying one or more regions of a defined activity in a chemical space;

(b) providing pharmacophore fingerprints of an investigation **set** of compounds for the library; and

(c) identifying a subset of the investigation **set** of compounds having pharmacophore fingerprints falling within the one or more regions of the defined activity, the subset comprising the library.

(8) A computer program product comprising a machine readable medium on which is provided program code for identifying one or more regions of a defined activity in a chemical space, the program code specifying the operations of M3;

(9) A computer program product comprising a machine readable medium on which is provided program code for generating a library of compounds, the program code specifying the operations of M4; and

(10) A computer program product comprising a machine readable medium on which is provided a representation of a chemical space, where the representation includes one or more principal components derived from pharmacophore fingerprints and associated activities for compounds from a reference **set** of compounds, and the representation of the chemical space identifies one or more regions of a defined activity.

USE - The methods are useful for screening collections of compounds to design primary or target libraries of compounds. The method also pertains to defining an active subspace within a general representation of chemical space to assist in designing libraries useful in drug discovery.

pp; 102 DwgNo 0/17

Title Terms: NEW; BASIS; **SET** ; MACHINE; READ; FORMAT; COMPRISE; THREE; SPACE; SEPARATE; CENTRE; USEFUL; SCREEN; COMPOUND; DESIGN; PRIMARY; TARGET; COMPOUND

Derwent Class: B04; J04; S03

International Patent Class (Main): G01N-000/00; G01N-033/48; **G06F-017/30** ; **G06F-017/50** ; **G06F-019/00**

International Patent Class (Additional): A01N-037/18; C12Q-001/68; G01N-031/00; G01N-033/15; G01N-033/50; G01N-033/53; G06F-015/18

File Segment: CPI; EPI

19/5/9 (Item 9 from file: 350)

012804415 **Image available**

WPI Acc No: 1999-610645/199952

XRPX Acc No: N99-449946

Default probability assessing method used in financial management system

Patent Assignee: IQ FINANCIAL SYSTEMS INC (IQFI-N)

Inventor: JAMMAL S; NEALE C; RAJENDRA P; WONG A; YANG A

Number of Countries: 087 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9948036	A1	19990923	WO 99US5978	A	19990319	199952	B
AU 9930108	A	19991011	AU 9930108	A	19990319	200008	
EP 1066582	A1	20010110	EP 99911470	A	19990319	200103	
			WO 99US5978	A	19990319		

Priority Applications (No Type Date): US 9878793 P 19980320
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9948036	A1	E	52	G06F-157/00	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

AU 9930108	A			Based on patent WO 9948036
EP 1066582	A1	E	G06F-019/00	Based on patent WO 9948036

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): WO 9948036 A1

NOVELTY - Weightage given for each credit factor is determined using both inputs, based on which default probability of borrower is calculated to determine level of fitness. The weightage is **set** to new calculated value when level of fitness is found to be below preset value, based on which credit is approved.

DETAILED DESCRIPTION - First input is received that indicates borrowers **previous** defaulted occasions. Second input comprises various credit factors indicating borrower's ability to repay financial delegation in predefined market. INDEPENDENT CLAIMS are also included for the following:

(a) computer program for default probability assessing;

(b) default probability assessing system

USE - For assessing data **predicting** default probability of borrower in financial obligations used in financial management systems e.g. bank.

ADVANTAGE - Since the method is better suited for analyzing local financial environment on market, therefore is applicable for developing countries where market proxies do not exist. Uses **database** of local companies or entities within the market or economic environment of interest as reference, to apply **non - linear** regression technique. Allows lending institution to assess impact of future economic or industrial scenario. Provides better perspective on credit worthiness of companies, therefore useful to manage assets of banks based on processed information that was not available **previously** . Due to automated mathematics, allows consistent and rapid quantization of default probabilities, thus producing stable and accurate results.

DESCRIPTION OF DRAWING(S) - The figure shows flow diagram illustrating probability of default processing technique.

pp; 52 DwgNo 4/14

Title Terms: DEFAULT; PROBABILITY; ASSESS; METHOD; FINANCIAL; MANAGEMENT; SYSTEM
Derwent Class: T01
International Patent Class (Main): **G06F-019/00** ; G06F-157/00
File Segment: EPI

19/5/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011870315 **Image available**
WPI Acc No: 1998-287225/199825
Related WPI Acc No: 1999-580509; 2000-270663; 2002-689861
XRPX Acc No: N98-225710

Transmitter in process control **system with resistance sensor sensing variable - couples sensor monitoring circuit to sensor outputting second signal, couples A-D converter circuitry to sensor output and monitor circuitry to digitise sensor output and second signal and to transmit residual life** estimate

Patent Assignee: ROSEMOUNT INC (ROEC)
Inventor: ERYUREK E; LENZ G
Number of Countries: 022 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9820469	A1	19980514	WO 97US19045	A	19971020	199825	B
US 5828567	A	19981027	US 96744980	A	19961107	199850	
EP 937294	A1	19990825	EP 97911852	A	19971020	199939	
			WO 97US19045	A	19971020		
US 5956663	A	19990921	US 96744980	A	19961107	199945	
			US 9848452	A	19980326		
CN 1236463	A	19991124	CN 97199524	A	19971020	200014	
JP 2001506778	W	20010522	WO 97US19045	A	19971020	200134	
			JP 98521448	A	19971020		
EP 937294	B1	20010829	EP 97911852	A	19971020	200150	
			WO 97US19045	A	19971020		
DE 69706433	E	20011004	DE 606433	A	19971020	200166	
			EP 97911852	A	19971020		
			WO 97US19045	A	19971020		

Priority Applications (No Type Date): US 96744980 A 19961107; US 9848452 A 19980326
Cited Patents: No-SR.Pub
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9820469	A1	E	29	G08C-019/02	
Designated States (National): CA CN JP SG					
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
US 5828567	A			G06F-019/00	
EP 937294	A1	E		G08C-019/02	Based on patent WO 9820469
Designated States (Regional): DE DK FR GB IT NL SE					
US 5956663	A			G06F-019/00	Cont of application US 96744980 Cont of patent US 5828567
CN 1236463	A			G08C-019/02	
JP 2001506778	W		23	G08C-025/00	Based on patent WO 9820469
EP 937294	B1	E		G08C-019/02	Based on patent WO 9820469
Designated States (Regional): DE DK FR GB IT NL SE					
DE 69706433	E			G08C-019/02	Based on patent EP 937294 Based on patent WO 9820469

Abstract (Basic): WO 9820469 A

The transmitter includes a resistance sensor sensing a process variable and giving an output. Sensor monitoring circuits (116) are coupled to the sensor to give a secondary signal. Analog to digital conversion circuitry is coupled to the sensor output and monitor circuitry to provide a digitised sensor output and secondary signal and to transmit a residual life **estimate** .

A memory stores a **set** of expected results related to the secondary signal and the sensor. Diagnostic circuitry (118) is coupled to the digitised secondary signal and to the memory to provide the residual life **estimate** as a function of the expected results (120) in the memory and the digitised secondary signal. The transmitter comprises a **neural network** .

USE - Relates to transmitters of type used in **process control** industry and to diagnostics for these transmitters.

ADVANTAGE - Enables sensors to be periodically replaced as they age using residual life **estimates** .

Dwg.2/5

Title Terms: TRANSMIT; PROCESS; CONTROL; SYSTEM; RESISTANCE; SENSE; SENSE; VARIABLE; COUPLE; SENSE; MONITOR; CIRCUIT; SENSE; OUTPUT; SECOND; SIGNAL; COUPLE; ANALOGUE-DIGITAL; CONVERTER; CIRCUIT; SENSE; OUTPUT; MONITOR; CIRCUIT; SENSE; OUTPUT; SECOND; SIGNAL; TRANSMIT; RESIDUE; LIFE;

ESTIMATE
Derwent Class: S01; S02; S03; T05; W05
International Patent Class (Main): **G06F-019/00** ; G08C-019/02; G08C-025/00
International Patent Class (Additional): G07C-003/00
File Segment: EPI

19/5/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011102448 **Image available**
WPI Acc No: 1997-080373/199708
XRPX Acc No: N97-066545
Sales target forecasting **device employing** neural network **- includes** forecasting **part which products actual sales value based on time sequential data corresponding to sales values of** previous days
Patent Assignee: SANYO ELECTRIC CO LTD (SAOL)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8314891	A	19961129	JP 95115722	A	19950515	199708	B
JP 3229773	B2	20011119	JP 95115722	A	19950515	200176	

Priority Applications (No Type Date): JP 95115722 A 19950515
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8314891	A		6	G06F-017/00	
JP 3229773	B2		6	G06F-017/60	Previous Publ. patent JP 8314891

Abstract (Basic): JP 8314891 A
The device computes a time sequential **data based** on actual sales value of **previous days** .
A sequence production art (3) produces a sequence for **forecasting** the actual result value for the coming **days** . A **forecasting** part (4) produces a **prediction** result based this time sequential data.
ADVANTAGE - Provides high precision **prediction** operation even under abnormal conditions.
Dwg.1/2
Title Terms: SALE; TARGET; **FORECAST** ; DEVICE; EMPLOY; NEURAL; NETWORK; **FORECAST** ; PART; PRODUCT; ACTUAL; SALE; VALUE; BASED; TIME; SEQUENCE; DATA; CORRESPOND; SALE; VALUE; **DAY**
Derwent Class: T01
International Patent Class (Main): **G06F-017/00** ; **G06F-017/60**
International Patent Class (Additional): G06F-015/18; **G06F-019/00**
File Segment: EPI

19/5/12 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011091698 **Image available**
WPI Acc No: 1997-069623/199707
XRPX Acc No: N97-057424
Interest forecasting **data production method using** neural network **in bank - involves producing measurement economic** model **which is formed on basis of** past **economic index data**
Patent Assignee: HITACHI LTD (HITA)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8314892	A	19961129	JP 95119534	A	19950518	199707	B

Priority Applications (No Type Date): JP 95119534 A 19950518
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8314892	A		8	G06F-017/00	

Abstract (Basic): JP 8314892 A

The production method involves expanding of the build up of a measurement economic **model** with a modern construction support unit (10). The **model** is expanded to support a **neural network** and is arranged by a **model learning** device (13) using a **teacher** data. The **teacher** data is stored in a **past** actual result **data file** (70). Similarly, using a **past** actual result data, the **neural network** is unified by a **model** unification unit (20). The unified **neural network** is input into an interest **forecasting** device (32) where interest **forecasting** processing is performed.

Data are input and output to the **neural network** by a **simulation** execution unit (30). An outside student variable time series **prediction** device (31) **predicts** the variable scenario for the external user. The scenario which is a measurement economic **model** is formed automatically on a time sequential basis from a **past** economic index data and is stored in a memory part (50). The formed scenario is input into the interest **forecasting** device and permanently stored in an interest **forecasting data file** (80).

ADVANTAGE - Simplifies construction. Improves **model** 's conservativeness.

Dwg.1/7

Title Terms: INTEREST; **FORECAST** ; DATA; PRODUCE; METHOD; NEURAL; NETWORK; BANK; PRODUCE; MEASURE; ECONOMY; **MODEL** ; FORMING; BASIS; PASS; ECONOMY; INDEX; DATA

Derwent Class: T01

International Patent Class (Main): **G06F-017/00**

International Patent Class (Additional): G06F-009/44; G06F-015/18; G06G-007/60

File Segment: EPI

19/5/13 (Item 13 from file: 350)

DIALOG(R)File 350:Derwent WPIX

010759685 **Image available**

WPI Acc No: 1996-256640/199626

Related WPI Acc No: 1997-057404; 1997-057405

XRPX Acc No: N96-215794

Weather prediction **device for** estimating **amt. of e.g. rainfall, snow - has study and** prediction **circuit in data processor that uses** set **initial value for** neural network model **weighting as standard when** neural network **is reset for re-study**

Patent Assignee: NIPPON TELEGRAPH & TELEPHONE CORP (NITE)

Inventor: OCHIAI K; SONEHARA N; SUZUKI H

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8106448	A	19960423	JP 94239791	A	19941004	199626	B
US 5796611	A	19980818	US 95538723	A	19951003	199840	

Priority Applications (No Type Date): JP 94239791 A 19941004; JP 95107334 A 19950501; JP 95107335 A 19950501

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8106448	A		7	G06F-017/00	
US 5796611	A			G06F-017/10	

Abstract (Basic): JP 8106448 A

The device studies weather dynamics by processing radar images using a **neural network model** . Information gathered by a weather radar (101) and a file reading device (102) is input to a pattern recognition circuit (201) and a study and **prediction** circuit (203) in a data processor (200).

The output of the pattern recognition circuit is received by a **database** (202) in which **past** radar images used by the study and **prediction** circuit are stored. An initial value for the **neural**

network model weighting for weather **prediction** is **set** from the common pattern found between the measured radar image and **past** radar images recorded in the **database** . The **set** initial value, considered as closest to the accepted standard, is automatically used in weighting when the **model** is reset for a re-study.

ADVANTAGE - Performs systematic classification and control of weather radar image. Shortens time required to study newly acquired radar image by using **neural network model** weighting that used and studied every cluster of radar image. Reduces computational complexity when obtaining radar image in **prediction** time of random intervals.

Dwg.1/4

Title Terms: WEATHER; **PREDICT** ; DEVICE; **ESTIMATE** ; AMOUNT; RAIN; SNOW; STUDY; **PREDICT** ; CIRCUIT; DATA; PROCESSOR; **SET** ; INITIAL; VALUE; NEURAL ; NETWORK; **MODEL** ; WEIGHT; STANDARD; NEURAL; NETWORK; RESET; STUDY
Derwent Class: T01; T04; W06
International Patent Class (Main): **G06F-017/00** ; **G06F-017/10**
International Patent Class (Additional): G01S-013/95; G01W-001/10; G06F-015/18
File Segment: EPI

19/5/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009981737 **Image available**
WPI Acc No: 1994-249451/199430
XRPX Acc No: N94-196978

Advanced weather prediction **for retail planning - derives weather impact** model **from** historical **retail and weather data using correlator, and applies to forward weather and retail plans to** forecasting **processor**

Patent Assignee: STRATEGIC WEATHER SERVICES (STRA-N)
Inventor: FOX F D; FOX R J; PEARSON D R; RHOADS M A; YOUNG W R
Number of Countries: 002 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9416394	A2	19940721	WO 93US11005	A	19931112	199430	B
AU 9462476	A	19940815	AU 9462476	A	19931112	199442	
WO 9416394	A3	19940901	WO 93US11005	A	19931112	199518	
US 5521813	A	19960528	US 932847	A	19930115	199627	

Priority Applications (No Type Date): US 932847 A 19930115
Cited Patents: No-SR.Pub; 5.Jnl.Ref; US 4766539; US 5063506; US 5128861; US 5168445
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9416394	A2	E	58	G06F-015/20	
AU 9462476	A			G06F-015/20	Based on patent WO 9416394
US 5521813	A		26	G06F-017/60	
WO 9416394	A3			G06F-015/20	

Abstract (Basic): WO 9416394 A

The retail management planning system includes a **model** including forward weather **predictions** . The system is operated on a computer and receives input retail management data (130). This is processed by a long-range executive weather information system (202) which evaluates the impact on the plans to account for **forecast** weather. The output ia a modified management plan accounting for weather **predictions** .

The **model** is created from **historic** data on both retail sales and weather. Various correlation techniques are applied to this data including **neural networks** .

ADVANTAGE - Improves distribution and sales by accounting for weather effects on retail business.

Dwg.1/15

Title Terms: ADVANCE; WEATHER; **PREDICT** ; RETAIL; PLAN; DERIVATIVE; WEATHER ; IMPACT; **MODEL** ; **HISTORY** ; RETAIL; WEATHER; DATA; CORRELATE; APPLY; FORWARD; WEATHER; RETAIL; PLAN; **FORECAST** ; PROCESSOR

Derwent Class: T01
International Patent Class (Main): G06F-015/20; **G06F-017/60**
File Segment: EPI

19/5/15 (Item 15 from file: 347)
DIALOG(R)File 347:JAPIO

06707371 **Image available**
DEMAND AMOUNT **PREDICTING** METHOD

PUB. NO.: 2000-293203 [JP 2000293203 A]
PUBLISHED: October 20, 2000 (20001020)
INVENTOR(s): NIIYAMA KAYO
NISHIKAWA YASUHIRO
APPLICANT(s): MITSUBISHI ELECTRIC CORP
APPL. NO.: 11-095602 [JP 9995602]
FILED: April 02, 1999 (19990402)
INTL CLASS: G05B-013/02; E03B-001/00; **G06F-017/00**

ABSTRACT

PROBLEM TO BE SOLVED: To precisely **forecast** the demand amount of water supply even in a snowy country and even on a special **day** by making a **neural network learn** as **learning** data the actual result values of input/output data in a certain period so that the output value of the **neural network** equals a daily water distribution amount actual result value.

SOLUTION: The **neural network** 13 inputs the weather, highest temperature, and lowest temperature of today and the snowfall depth of the yesterday, and outputs the daily water distribution amount of today. The **neural network** 13 is made to **learn** as **learning** data the actual result values of input/output data in an actual **database** 10 in a certain period, e.g. the **past** three weeks so that the output of the **neural network** 13 equals the daily water distribution actual result. Then the weather **forecast** , **forecast** highest temperature, and **forecast** lowest temperature of the **forecasting day** from a weather **forecast data file** 11 and the snowfall depth of the **day** right before the **forecasting day** from the actual result **database** 10 are inputted to the **neural network** 13 having **learnt** and the daily water distribution **forecast** value of the **forecasting day** is **forecast** and outputted.

19/5/16 (Item 16 from file: 347)
DIALOG(R)File 347:JAPIO

05246906 **Image available**
OPERATION SCHEDULE PLANNING METHOD FOR ENERGY SUPPLY PLANT

PUB. NO.: 08-202406 [JP 8202406 A]
PUBLISHED: August 09, 1996 (19960809)
INVENTOR(s): HORI YOSHINARI
YAMADA AKIHIKO
SHIMODA MAKOTO
BABA KENJI
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-007928 [JP 957928]
FILED: January 23, 1995 (19950123)
INTL CLASS: [6] G05B-013/04; G05B-017/02; G06F-015/18; **G06F-017/00** ; F01K-013/02
JAPIO CLASS: 22.3 (MACHINERY -- Control & Regulation); 21.1 (ENGINES & TURBINES, PRIME MOVERS -- Steam); 35.1 (NEW ENERGY SOURCES -- Solar Heat); 45.4 (INFORMATION PROCESSING -- Computer

Applications)

ABSTRACT

PURPOSE: To stably supply energy with high efficiency by **estimating** variation in **predicted** demand quantity from the time when an operation schedule is planned, and **previously** planning a schedule wherein the combination of equipments to be started is not changed.

CONSTITUTION: In a demand **prediction** process 1, data of an operation actual result **data base** 5 and a weather **data base** 6 are used and a **neural network** is utilized to **predict** the demand quantity of energy of a next **day** . In an error **estimation** process 2, a **forecasting** error of weather data of the next data is statistically calculated by using the weather **data base** 6. On the basis of the **forecasting** error, the difference between the demand quantity of the and the actual demand quantity is **estimated** . In an operation schedule generating process 3, the operation schedule wherein highly efficient operation is possible without changing the combination of the equipments which are started even if the demand quantity varies within the range of the variation calculated in the error **estimating** process 2 is planned. This planned operation schedule is displayed as a guidance to an operator and the energy supply equipment **group** 4 is operated and controlled.

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Set     Items   Description
S1         75   AU=(FERGUSON B? OR FERGUSON, B?)
S2          2   S1 AND (DATABASE? OR DB OR RDB OR RDBMS OR OODB OR DBM OR -
              RDBM)
S3          9   S1 AND IC=G06F?
S4         10   S2 OR S3
S5         10   IDPAT (sorted in duplicate/non-duplicate order)
S6          7   IDPAT (primary/non-duplicate records only)
File 344:Chinese Patents Abs Aug 1985-2002/Nov
         (c) 2002 European Patent Office
File 347:JAPIO Oct 1976-2002/Sep(Updated 030102)
         (c) 2003 JPO & JAPIO
File 348:EUROPEAN PATENTS 1978-2002/Dec W03
         (c) 2002 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20030102,UT=20021226
         (c) 2003 WIPO/Univentio
File 350:Derwent WPIX 1963-2002/UD,UM &UP=200301
         (c) 2003  Thomson Derwent
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6/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014806371 **Image available**
WPI Acc No: 2002-627077/200267
Related WPI Acc No: 2000-061738; 2001-615581; 2002-040794
XRPX Acc No: N02-495984

Network collaboration method for computer networks, involves determining proposed selection of statements from subsets of statements received by user terminals and transmitting corresponding information to different user terminal

Patent Assignee: RECIPIO INC (RECI-N)
Inventor: CLEMENSON G D; **FERGUSON B** ; PINILLIA J M
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020095392	A1	20020718	US 96657984	A	19960604	200267 B
			US 99416143	A	19991012	
			US 2001317895	A	20010907	
			US 2001952753	A	20010913	

Priority Applications (No Type Date): US 2001317895 P 20010907; US 96657984 A 19960604; US 99416143 A 19991012; US 2001952753 A 20010913
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020095392	A1		27	G06F-015/16	Cont of application US 96657984 CIP of application US 99416143 Provisional application US 2001317895 Cont of patent US 5995951 CIP of patent US 6304861

Abstract (Basic): US 20020095392 A1

NOVELTY - The subsets of statements are selected from the statements stored in a memory and transmitted to different user terminals. A proposed selection of statements is determined in response to the received subsets of statements and the information related to the proposed selection is transmitted to another user terminal.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for network collaboration program.

USE - For collaborating computer systems connected to networks such as internet.

ADVANTAGE - The network resource groups that include groups of users are interconnected efficiently by common computer network so as to enable the groups of user to collaborate in decision making.

DESCRIPTION OF DRAWING(S) - The figure shows the flow diagram of network collaboration method.

pp; 27 DwgNo 3/18

Title Terms: NETWORK; METHOD; COMPUTER; NETWORK; DETERMINE; PROPOSED; SELECT; STATEMENT; SUBSET; STATEMENT; RECEIVE; USER; TERMINAL; TRANSMIT; CORRESPOND; INFORMATION; USER; TERMINAL
Derwent Class: T01
International Patent Class (Main): **G06F-015/16**
File Segment: EPI

6/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014642321 **Image available**
WPI Acc No: 2002-463025/200249
XRPX Acc No: N02-365113

Transaction optimization system for e-marketplaces, includes server that executes transaction optimization program using transaction information received from participant computers

Patent Assignee: EROC.COM INC (EROC-N)
Inventor: **FERGUSON B** ; HURLEY E; PERIALAS P C; PETRONE L; PITTS J W;

PLUMER E; RODSARI B S
Number of Countries: 093 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200191014	A2	20011129	WO 2001US16892	A	20010523	200249	B
AU 200166608	A	20011203	AU 200166608	A	20010523	200250	

Priority Applications (No Type Date): US 2001818218 A 20010327; US 2000578162 A 20000523
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200191014	A2	E	34	G06F-017/60	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200166608	A		G06F-017/60	Based on patent WO 200191014	

Abstract (Basic): WO 200191014 A2
NOVELTY - A server (108) executes a transaction optimization program, using transaction information including constraints and objectives for a transaction, received from the participant computers (106a-106n). The server outputs the transaction results to the participant computers.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for transaction optimizing method.
USE - Used in e-marketplace to use, select and purchase goods or services related to metals, wood and paper, food, manufacturing, chemicals, electronics, healthcare, insurance, finance, etc.
ADVANTAGE - Does not require a manual transaction execution. The transaction results provides an optimized transaction between the participants.
DESCRIPTION OF DRAWING(S) - The figure shows the transaction optimization system for e-marketplace.
Participant computers (106a-106n)
Server (108)
pp; 34 DwgNo 1/8
Title Terms: TRANSACTION; OPTIMUM; SYSTEM; SERVE; EXECUTE; TRANSACTION; OPTIMUM; PROGRAM; TRANSACTION; INFORMATION; RECEIVE; PARTICIPATING; COMPUTER
Derwent Class: T01
International Patent Class (Main): **G06F-017/60**
File Segment: EPI

6/5/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013965720 **Image available**
WPI Acc No: 2001-449934/200148
XRPX Acc No: N01-332986
Application program testing system for computer system, has testing service that executes application program to test it in response to selection of modified version
Patent Assignee: ELECTRONIC DATA SYSTEMS CORP (ELDA-N)
Inventor: **FERGUSON B J** ; KISLANKO J P; TURRIFF J L
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6195765	B1	20010227	US 982591	A	19980105	200148	B

Priority Applications (No Type Date): US 982591 A 19980105
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6195765	B1		8	H02H-003/05	

Abstract (Basic): US 6195765 B1

NOVELTY - Application program (20) is executed within normal operating environment (12), when not being tested. Shared **database** (18) stores the program and provides multiple users (16) with access to program. Testing service (10) coupled to environment and shared **database** , executes the program within modified version (24) of the environment, to test the program in response to one of the users selecting the version.

DETAILED DESCRIPTION - Testing service supports a base copy (22) of the environment and stimulates it. The modified version of the environment is isolated and differs from the base copy with respect to testing variable which is an operating system date. INDEPENDENT CLAIMS are also included for the following:

(a) Testing service for testing application program;

(b) Application program testing method

USE - For testing application program in computer systems.

ADVANTAGE - Multiple users are allowed to access concurrently the shared resources of the testing service and the shared **database** using a user-friendly user interface. Application programs are tested without affecting the normal testing environment by isolating the modified versions of the environment.

DESCRIPTION OF DRAWING(S) - The figure shows the explanatory system for testing application program in normal operating environment.

Testing service (10)

Normal operating environment (12)

User (16)

Shared **database** (18)

Application program (20)

Base copy of environment (22)

Modified version of environment (24)

pp; 8 DwgNo 1/3

Title Terms: APPLY; PROGRAM; TEST; SYSTEM; COMPUTER; SYSTEM; TEST; SERVICE; EXECUTE; APPLY; PROGRAM; TEST; RESPOND; SELECT; MODIFIED; VERSION

Derwent Class: T01

International Patent Class (Main): H02H-003/05

File Segment: EPI

6/5/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

013924108 **Image available**

WPI Acc No: 2001-408321/200143

XRPX Acc No: N01-302143

Cruise packages selling and booking method involves comparing detailed cruise information received from server interactively and submitting booking request for one of cruise sailings to web site

Patent Assignee: TRAVEL SERVICES INT INC (TRAV-N); BASTNAGEL M (BAST-I); BERK B J (BERK-I); BURKARD A D (BURK-I); CARPENTER M A (CARP-I); CHRISTEN H S (CHRI-I); CODD T L (CODD-I); COLANGELO P (COLA-I); COX M (COXM-I); DELAND J U (DELA-I); DELPINO G (DELP-I); DELVA J S (DELV-I); ELENBERGER M J (ELEN-I); ELLIOTT T (ELLI-I); EVERHART-BROOKS S (EVER-I); EWART V D (EWAR-I); FERGUSON B (FERG-I); FESSENDEN T (FESS-I); FITTON P (FITT-I); FORMAN D A (FORM-I); HELMS K (HELM-I); HINTZ S L (HINT-I); HUFF W C (HUFF-I); JUDY E K (JUDY-I); KLOTZ I D (KLOT-I); KURK C W T (KURK-I); LESLIE K J (LESL-I); LEVY S B (LEVY-I); LOCICERO F (LOCI-I); LOISELLE V M (LOIS-I); LUNA C A (LUNA-I); MOORHEAD T M (MOOR-I); NICKERSON J A (NICK-I); PORTER N (PORT-I); QUINTANA A (QUIN-I); REYNOLDS K J (REYN-I); RODRIQUEZ E M (RODR-I); SCANLON M (SCAN-I); SCHIFF M R (SCHI-I); SHEROTA M T (SHER-I); SUSSMAN-WILES K M (SUSS-I); TOLLE D (TOLL-I); COLANGELO P L (COLA-I); ELLIOT T (ELLI-I); RODRIGUEZ E M (RODR-I)

Inventor: BASTNAGEL M; BERK B J; BURKARD A D; CARPENTER M A; CHRISTEN H S; CODD T L; COLANGELO P; COX M; DELAND J U; DELPINO G; DELVA J S; ELENBERGER M J; ELLIOTT T; EVERHART-BROOKS S; EWART V D; **FERGUSON B** ; FESSENDEN T; FITTON P; FORMAN D A; HELMS K; HINTZ S L; HUFF W C; JUDY E K ; KLOTZ I D; KURK C W T; LESLIE K J; LEVY S B; LOCICERO F; LOISELLE V M;

LUNA C A; MOORHEAD T M; NICKERSON J A; PORTER N; QUINTANA A; REYNOLDS K J ; RODRIQUEZ E M; SCANLON M; SCHIFF M R; SHEROTA M T; SUSSMAN-WILES K M; TOLLE D; COLANGELO P L; ELLIOT T; RODRIGUEZ E M; BURKHARD A D; SCANION M

Number of Countries: 094 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200140978	A2	20010607	WO 2000US32875	A	20001202	200143	B
AU 200119430	A	20010612	AU 200119430	A	20001202	200154	
US 20020022977	A1	20020221	US 99168871	A	19991203	200221	
			US 2000728584	A	20001201		
US 20020022978	A1	20020221	US 99168871	A	19991203	200221	
			US 2000728939	A	20001201		
US 20020082877	A1	20020627	US 99168871	A	19991203	200245	
			US 2000734323	A	20001201		
US 6477533	B2	20021105	US 99168871	A	19991203	200276	
			US 2000728584	A	20001201		

Priority Applications (No Type Date): US 99168871 P 19991203; US 2000728584 A 20001201; US 2000728939 A 20001201; US 2000734323 A 20001201

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200140978	A2	E	161	G06F-017/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200119430	A	G06F-017/00	Based on patent WO 200140978	
US 20020022977	A1	G06F-017/60	Provisional application US 99168871	
US 20020022978	A1	G06F-017/60	Provisional application US 99168871	
US 20020082877	A1	G06F-017/60	Provisional application US 99168871	
US 6477533	B2	G06F-017/30	Provisional application US 99168871	

Abstract (Basic): WO 200140978 A2

NOVELTY - Web browser program is used to log onto the cruise service web server (210) via data communication network (125). Customer profile information and sailing preference information are submitted to the server. Cruise sailings from the server are selected and submitted to the cruise service web site. Detailed cruise information received from the server is compared interactively and booking request for one of the cruise sailings is submitted to the web site.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Cruise booking system;
(b) Cruise booking method;
(c) Network node;
(d) System for booking cruises;
(e) Travel agent assisting method;
(f) Customer assisting method;
(g) System for selling cruises;
(h) Computer implemented system;
(i) Cruise sailings selection method;
(j) Cruise qualification system;
(k) Cruise package information selection method;
(l) Cruise sailing and booking system searching method;
(m) Cruise package information finding system;
(n) Cruise pricing information presenting method;
(o) Cruise pricing information filtering method;
(p) Cruise pricing information requisition method;
(q) Computer usage method;
(r) Cruise package pricing category information analyzing method;
(s) Cruise package information analyzing system;
(t) Cruise package price options comparing method;
(u) Cruise package price options comparing system;

(v) Cruise package and pricing information providing method;
(w) Cruise packages comparing system;
(x) Cruise package and pricing information organizing method;
(y) Cruise package information comparing system;
(z) Agent interaction tracking system;
(aa) Agent ownership managing method;
(bb) Agent ownership verification method;
(cc) Agent changing method;
(dd) Method of tracking and maintaining relationships between clients and agents;
(ee) Agent ownership system using method;
(ff) Agent identification method;
(gg) Agent overriding method;
(hh) Agent creating method;
(ii) Cruise price information displaying system
USE - For online booking of cruises, cruise price comparisons, booking and customer management.
ADVANTAGE - Matches customer preferences with available options and determines customer needs for facilitating cruise selling and booking process. Enables to query cruise options and to obtain query results best suited for the customer. Enables user to quickly access relevant cruise package and pricing information used for detailed and accurate comparisons between individual cruise packages does not rely on expensive, outdated and proprietary systems, telephone and facsimile and separate customer management systems to sell and book cruises.
DESCRIPTION OF DRAWING(S) - The figure shows the high level block diagram of cruise package booking and selling system.
Data communication network (125)
Web server (210)
pp; 161 DwgNo 2A/36
Title Terms: CRUISE; PACKAGE; SELL; BOOKING; METHOD; COMPARE; DETAIL; CRUISE; INFORMATION; RECEIVE; SERVE; INTERACT; SUBMIT; BOOKING; REQUEST; ONE; CRUISE; WEB; SITE
Derwent Class: T01; W01
International Patent Class (Main): **G06F-017/00 ; G06F-017/30 ; G06F-017/60**
International Patent Class (Additional): **G06F-017/30**
File Segment: EPI

6/5/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012889904 **Image available**
WPI Acc No: 2000-061738/200005
Related WPI Acc No: 2001-615581; 2002-040794; 2002-627077
XRPX Acc No: N00-048429
Resource groups collaboration method for decision making using computer network
Patent Assignee: RECIPIO (RECI-N)
Inventor: **FERGUSON B**
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5995951	A	19991130	US 96657984	A	19960604	200005	B

Priority Applications (No Type Date): US 96657984 A 19960604
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5995951	A		16	G06F-015/00	

Abstract (Basic): US 5995951 A
NOVELTY - A narrowed group of modified documents is formed based on the suggestions from users in the central server and are provided to users at remote clients. A final document is determined in the server after receiving selection statements from user. A specific time period is set to each user, indicating due time for the submitted documents

group.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for resource groups collaboration system.
USE - For decision making in various fields like building contract, commodity bidding, auction, advertisements, layout, commercial logos, packaging, slogans, economic designing and building design etc. For collaborative musical composition and/or analysis, multimedia design for controlling computer peripherals.
ADVANTAGE - The central server processes the user's ranking for prescribed statements and then synthesizes final proposed solution, thus allowing several users to collaborate in decision making. Provides useful data to users by maintaining list of actions taken by each user during entire process, thus ensuring adaptation to any area of decision making.
DESCRIPTION OF DRAWING(S) - The figure shows flow chart for resource groups collaboration.
pp; 16 DwgNo 3/15
Title Terms: RESOURCE; GROUP; METHOD; DECIDE; COMPUTER; NETWORK
Derwent Class: T01
International Patent Class (Main): **G06F-015/00**
File Segment: EPI

6/5/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012049892 **Image available**
WPI Acc No: 1998-466802/199840
XRPX Acc No: N98-363633
Controlled power supply system for circuit card e.g. ATM switching card for use in airborne applications such as in flight entertainment, hotel reservation service, on board telephony in aircraft - has logic circuit, which generates power supply enable signal only when circuit card connector terminal is coupled to opposite mating connector, based on which power is supplied to circuit card
Patent Assignee: SONY CORP (SONY); SONY TRANS COM INC (SONY)
Inventor: **FERGUSON B R** ; TAKATA K; WHITEHOUSE J B
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5796185	A	19980818	US 96732526	A	19961015	199840	B

Priority Applications (No Type Date): US 96732526 A 19961015
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5796185	A		10	G06F-013/00	

Abstract (Basic): US 5796185 A
The system (200) comprises a circuit card connector terminal mounted on the circuit card. An opposite mating connector terminal which is located in the entertainment system corresponding to the circuit card connector terminal, is coupled to a power control circuit (212). The power control circuit detects whether the circuit card connector terminal is coupled to the opposite mating connector and generates a first card presence signal.
Based on the first card presence signal, a logic circuit (268) in the power control circuit, generates a power supply enable signal. A main power supply (252) provides power to the circuit card, based on the power supply enable signal.
USE - For ATM switching card used in bus, train and ship.
ADVANTAGE - Enables vehicle benefiting from quick maintenance and servicing. Inhibits hot-card swapping and meets airborne EM and heat generation requirements. Disconnects or disables main power supply if circuit card is removed or if poor connection is detected in coupling between power control circuit and circuit card.
Dwg.2/4
Title Terms: CONTROL; POWER; SUPPLY; SYSTEM; CIRCUIT; CARD; ATM; SWITCH; CARD; AIRBORNE; APPLY; FLIGHT; ENTERTAINMENT; HOTEL; RESERVE; SERVICE;

BOARD; TELEPHONE; AIRCRAFT; LOGIC; CIRCUIT; GENERATE; POWER; SUPPLY; ENABLE; SIGNAL; CIRCUIT; CARD; CONNECT; TERMINAL; COUPLE; OPPOSED; MATE; CONNECT; BASED; POWER; SUPPLY; CIRCUIT; CARD
Derwent Class: T01; U24; W01; W06
International Patent Class (Main): **G06F-013/00**
File Segment: EPI

6/5/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011706414 **Image available**
WPI Acc No: 1998-123324/199812
XRPX Acc No: N98-098201

Serial data bus segmentation system e.g. in aircraft, train, bus, theatre or stadium - has control unit and several terminal apparatus units each containing internal termination network, connected to control unit by serial data bus

Patent Assignee: SONY TRANS COM INC (SONY); SONY CORP (SONY); SONY TRANSCOM INC (SONY)
Inventor: **FERGUSON B R** ; TAKATA K; WHITEHOUSE J B; ZAVERI K
Number of Countries: 003 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2316839	A	19980304	GB 9716086	A	19970730	199812	B
JP 10093565	A	19980410	JP 97229798	A	19970826	199825	
US 5872934	A	19990216	US 96697484	A	19960826	199914	
GB 2316839	B	20010404	GB 9716086	A	19970730	200120	

Priority Applications (No Type Date): US 96697484 A 19960826
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2316839	A		21	H04L-012/12	
JP 10093565	A		6	H04L-012/28	
US 5872934	A			G06F-013/00	
GB 2316839	B			H04L-012/12	

Abstract (Basic): GB 2316839 A

The segmentation system has a system control unit (100) and several terminal apparatus units (200), each containing an internal termination network (220). The system also has a system termination unit.

The system control unit is linked to each terminal apparatus unit by a serial data bus which terminates with the system termination unit and physically passes through each terminal apparatus unit via a normally closed DPDT relay.

USE - For initialising or configuring multiple terminal units located at or near passenger seat of passenger vehicle such as aircraft, train or bus, or in theatre or stadium etc.

ADVANTAGE - Configuration is quick and does not require physical access to several remote terminal units.

Dwg.1/2

Title Terms: SERIAL; DATA; BUS; SEGMENT; SYSTEM; AIRCRAFT; TRAIN; BUS; THEATRE; STADIUM; CONTROL; UNIT; TERMINAL; APPARATUS; UNIT; CONTAIN; INTERNAL; TERMINATE; NETWORK; CONNECT; CONTROL; UNIT; SERIAL; DATA; BUS
Derwent Class: W01; W02; W04; W06; X22; X23
International Patent Class (Main): **G06F-013/00** ; H04L-012/12; H04L-012/28
File Segment: EPI